THE BOTANY

OF

THE ANTARCTIC VOYAGE

OF

H.M. DISCOVERY SHIPS *EREBUS* AND *TERROR*,

IN THE YEARS 1839–1843,

UNDER THE COMMAND OF

CAPTAIN SIR JAMES CLARK ROSS, Kt., R.N., F.R.S. & L.S., ETC.

BY

JOSEPH DALTON HOOKER, M.D., R.N., F.R.S. & L.S., ETC.

ASSISTANT SURGEON OF THE "EREBUS," AND BOTANIST TO THE EXPEDITION.

& Others.

PART III.

FLORA TASMANIÆ.

VOL. II.

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1860.

3. **Sarcomitrium cochleatum** (Mitten).—Riccia cochleata, *Hook. fil. et Tayl. Lond. Journ. Bot.* iv. *p.* 96; *Crypt. Antarct. p.* 56. *pl.* 66. *f.* 5.

Hab. The Falls, Cheshunt, *Archer.*

Calyptra cylindrica, carnosa, setulosa.

This species seems always recognizable by the pale, slightly thickened row of marginal cells.

4. **Sarcomitrium crassum** (Schwægr.; Mitten, in Fl. N. Zeal. p. 167).—Aneura crassa, *Nees; G. L. et N. Syn. Hep. p.* 500.

Hab. Acheron River and Arthur's Lakes, *Gunn.* Cheshunt, *Archer.*

5. **Sarcomitrium multifidum** (Mitten).—Aneura multifida, *Dumort.; G. L. et N. Syn. Hep. p.* 496. Jungermannia multifida, *Linn. ed.* 2. *p.* 1602.

Hab. St. Patrick's River, *Gunn.*

6. **Sarcomitrium pinnatifidum** (Mitten).—Aneura pinnatifida, *Nees; G. L. et N. Syn. Hep. p.* 495.

Hab. St. Patrick's River, and in a rivulet at an altitude of 6000 feet, Western Mountains, *Gunn.* Ovens Creek, *Archer.*

7. **Sarcomitrium palmatum** (Mitten).—Aneura palmata, *Nees; G. L. et N. Syn. Hep. p.* 498. Jungermannia palmata, *Hedw. Theor. Gen. ed.* 1. *t.* 18. *f.* 93–95.

Hab. Cheshunt, *Archer.*

8. **Sarcomitrium eriocaulum** (Mitten).—Metzgeria eriocaula, *G. L. et N. Syn. Hep. p.* 505. Jungermannia eriocaula, *Hook. Musc. Exot. t.* 72.

Hab. Back River Gully, *Oldfield.*

9. **Sarcomitrium alcicorne** (Mitten).—Aneura alcicornis, *Hook. fil. et Tayl. Lond. Journ. Bot.* iii. 479; *Fl. Antarct. p.* 139. *pl.* 160. *f.* 8.

Hab. On rocks, in slowly running streams: Mount Wellington and elsewhere, *Oldfield, Archer.*

Gen. XXVI. MARCHANTIA, *Linn.*

1. **Marchantia tabularis** (Nees ab E.).

Hab. Tasmania; very common in wet shady places, where there have been fires, but also frequent even on the tops of the hills, *Gunn, J. D. H.* Back River Gully, *Oldfield.* Hospital Bay, South Huon, *Oldfield;* elsewhere, *Archer.*

Marchantia polymorpha, Linn., is stated by Dr. Gottsche, in 'Plantæ Muellerianæ,' to occur in Tasmania, but all the specimens yet seen appear to belong to *M. tabularis*, Nees, which differs more in appearance than in any decided character from the European species.

2. **Marchantia pileata** (Mitten, in Fl. N. Zeal. p. 169).—Additur descriptio plantæ masculæ:—receptaculo masculo brevipedunculato orbiculato obtuse quadri-quinquelobo.

Hab. On the ground, with *M. tabularis, J. D. H., Archer.*

Pedunculus bi-trilinearis, basi squamosus. *Receptaculum* latitudine bilineare, margine crenulatum.

The plant referred to this species corresponds so nearly in the size, colour, and areolation of its fronds, that there seems little reason to doubt its being the male of that already described in the 'Flora of New Zealand.'

3. **Marchantia foliacea** (Mitten, in Fl. N. Zeal. p. 168).

Hab. Tasmania, *Archer.*

Gen. XXVII. REBOULIA, *Nees ab E.*

1. **Reboulia hemisphærica** (Raddi; G. L. et N. Syn. Hep. p. 548).

Hab. Tasmania, *J. D. H.*

These specimens present no differences from the British states of the species, and, like them, have the fronds frequently constricted in an articulate manner.

Gen. XXVIII. FIMBRIARIA, *Nees ab E.*

1. **Fimbriaria Drummondii** (Tayl. Lond. Journ. Bot. 1846, p. 412; G. L. et N. Syn. Hep. pp. 566 et 791; Fl. N. Zeal. p. 169).

Hab. Tasmania, *Gunn.* Cheshunt, *Archer.* Brown's River, *Oldfield.*

2. **Fimbriaria australis** (Hook. fil. et Tayl. Lond. Journ. Bot. 1844, p. 573; G. L. et N. Syn. Hep. p. 561; Fl. N. Zeal. p. 170).

Hab. Brown's River, *Oldfield.*

3. **Fimbriaria tenera** (Mitten, in Fl. N. Zeal. p. 170).

Hab. Tasmania, *Archer.*

Gen. XXIX. TARGIONIA, *Micheli.*

1. **Targionia hypophylla** (Linn. Sp. Pl. ed. 2. ii. p. 1604).—T. Michelii, *Corda; G. L. et N. Syn. Hep. p.* 574).

Hab. Brown's River, *Oldfield.* Cheshunt, *Archer.*

Gen. XXX. ANTHOCEROS, *Micheli.*

1. **Anthoceros lævis** (Linn. Sp. Pl. ii. p. 1606; G. L. et N. Syn. Hep. p. 586; Fl. N. Zeal. p. 170).

Hab. Near Campbelltown, *Gunn.* In very wet places, under dripping water: Back River Gully, *Oldfield.* West-end Rivulet, *Archer.*

Nat. Ord. VII. FUNGI.

By the Rev. M. J. Berkeley.

The great characteristic of Tasmanian *Fungi*, of which 275 species are here enumerated, is their identity with or close relation to European forms. A very few only partake of a subtropical nature, while no considerable number of species exhibit any striking peculiarity. *Polyporus sanguineus* is almost wholly replaced by *P. cinnabarinus*, and though there are a few of those forms which are universal in the tropics, some of the most common species, as *Polyporus xanthopus*, are altogether wanting. A few are common to Tasmania, with Chili, but very few of the peculiar species of New Zealand occur. The Agarics are numerous. I have several species which I could not insert, from possessing only imperfect specimens. The three genera which abound most in species are *Agaricus*, *Polyporus*, and *Peziza*. About 8 species only can be considered as peculiarly Australian. The predominance of European forms will be seen from the following analysis; and of the extra-European forms about 11 only can be considered as at all tropical.

British species		113
European, which may be expected to occur in Great Britain		20
Tasmanian species of European type		95
Tasmanian species of extra-European type.		
Subtropical	11	
Chilian	6	39
Antarctic and Tasmanian	22	
Subtropical		8
		275

About one-fourteenth only may be considered as subtropical forms, while nine-elevenths are European, whereas in the New Zealand *Fungi* we have subtropical forms in the proportion of 1 to 3.

Gen. I. AGARICUS, *L.*

Lamellæ membranaceæ, non deliquescentes, acie acuta, trama subfloccosa, cum hymenophoro infero concretæ.

The Tasmanian species of this large genus are extremely numerous, and, as Fries has remarked of those of Australia, in many cases identical with European forms. Almost every tribe has its representative. The common Mushroom and the nearly allied *A. arvensis* are abundant, but there are few, if any, other esculent varieties. (Name from *Agaria*, a region in Sarmatia.)

1. **Agaricus (Amanita) ananæceps** (Berk. in Hook. Lond. Journ. vii. p. 572).
Hab. On the ground: Penquite, March, *Gunn.*

2. **Agaricus (Amanita) grossus** (Berk.); albus, pileo crasso carnoso plano-hemisphærico verrucoso quandoque areolato, stipite bulboso fibrilloso, volva adnata, lamellis latis adnatis rotundatis.
Hab. On the ground, *J. D. H.*

White. *Pileus* 4 inches across, hemispherical, slightly flattened, thick, fleshy, covered with large warts, sometimes areolate; margin incurved. *Stem* bulbous, 3 inches high, above an inch thick; *veil* none; *volva* adnate, sometimes obscure. *Gills* $\frac{3}{4}$ inch broad, rounded behind, adnate.—A very large, coarse species, to which I can point out no near ally, except possibly *A. excelsus*. The stem however is short in proportion to the size. It approaches in some respects such *Lepiotæ* as *A. Vittadini*. It seems to be hemispherical in every stage of growth. The rounded gills at once distinguish it from *A. ananæceps*.

3. **Agaricus (Lepiota) procerus** (Scop.; Fr. Epicrisis, p. 12).
Hab. On the ground: Penquite, *Gunn.*

One specimen is exactly *A. procerus*, Krombholz, fig. 10, with its smooth stem; another resembles *A. gracilentus*, Kromb.; and a third is very near *A. mastoideus*. All however formed apparently a single group.

4. **Agaricus (Lepiota) cristatus** (Fr. Ep. p. 15).
Hab. On the ground: Penquite, May, 1846, *Gunn.*

5. **Agaricus (Tricholoma) nudus** (Bull. t. 439).
Hab. On the ground: Penquite, May, 1846, *Gunn.*

6. **Agaricus (Clitocybe) inversus** (Scop.; Fr. Ep. p. 70).
Hab. On the ground: Penquite, May, 1846, *Gunn.*

7. **Agaricus (Clitocybe) schizophyllus** (Berk.); cæspitosus, connatus, pileo convexo, stipite cartilagineo-fibroso, basi spongioso-tomentoso, lamellis decurrentibus demum margine fissis.

Hab. On charred wood, *Archer.*

Cæspitose, connate. *Pileus* 1 inch or more across, convex. *Stem* 2 inches high, 2 lines thick, stringy, with a thin cartilagino-fibrous coat, adhering by spongy down to the matrix. *Gills* decurrent, at length split at the margin after the fashion of *Schizophyllum*. The *colour* of the whole, when dry, is tawny, approaching to rufous.—This very singular species may possibly some day constitute a new genus. I have however seen but a single group, consisting of three specimens. The gills are not split till the pileus is expanded. In the genus *Agaricus* it is nearest to *A. coffeatus* and its allies.

8. **Agaricus (Clitocybe) laccatus** (Scop.; Fr. Ep. p. 81).

Hab. On the ground, *Gunn, Archer.*

9. **Agaricus (Collybia) radicatus** (Relh.; Fr. Ep. p. 81).

Hab. On dead wood, sunk in the ground: Penquite, May, 1846, abundant, *Gunn.*

10. **Agaricus (Collybia) morulus** (Berk.); rufo-purpureus, pileo convexo carnoso stipiteque æquali albo-farcto horizontali asperulis, lamellis planis latis adnatis distantibus. (Tab. CLXXXI. Fig. 1.)

Hab. On dead wood, *Archer.*

Dark mulberry-brown. *Pileus* 1 inch across, convex, fleshy. *Stem* horizontal, rough, like the pileus, with little downy points, stuffed. *Gills* plane, distant, adnate, of the same colour as the pileus.—A fine species, resembling *A. pæonius*, *A. carneus*, etc., but with distant, thicker gills. *A. carneus* is confessedly near to *Collybia*, though placed in *Tricholoma*.—Plate CLXXXI. Fig. 1; *a a*, plant, *nat. size*; *b*, vertical section; *c*, portion of pileus:—*magnified*.

11. **Agaricus (Mycena) cohærens** (Alb. et Schw. p. 163).

Hab. On dead wood, *Archer.*

12. **Agaricus (Mycena) galericulatus** (Scop.; Fr. Ep. p. 106).

Hab. On dead wood, *Archer.*

13. **Agaricus (Mycena) atrocyaneus** (Batsch. fig. 87).

Hab. On dead wood, *Archer.*

14. **Agaricus (Mycena) interruptus** (Berk.); pileo crassiusculo plano depresso livido pelliculâ cartilagineâ tecto, stipite e basi orbiculari applanata striata oriundo, lamellis crenulatis albidis pilei carne gelatinoso-carnosa descendente interruptis. (Tab. CLXXXI. Fig. 2.)

Hab. On bark, *Archer.*

Pileus $1\frac{1}{2}$ line across, plane, depressed, livid in the centre, clothed with a cartilaginous pellicle; *flesh* subgelatinous, separated from the stem by a groove, and interrupting the pallid, crenate, subdecurrent gills. *Stem* ascending, $\frac{1}{4}$ inch high, $\frac{1}{2}$ a line thick, rising from a flattened orbicular disc, and at first sunk into it, and marking it with raised lines by means of the gills.—This singular species is allied to *Agaricus mucor*, but is separated by numerous characters. The dried specimens do not show the portion of the gill within the groove, which is very distinctly represented in Mr. Archer's drawing.—Plate CLXXXI. Fig. 2; *a*, plant, *nat. size*; *b*, ditto, *magnified*; *c*, highly magnified section of the pileus, to show the interrupted gills.

15. **Agaricus (Mycena) capillaris** (Schum.; Fr. Ep. p. 119).

Hab. On Fern, chips, etc., *Archer.*

16. **Agaricus (Omphalia) Epichysium** (Pers. Ic. Pict. t. 13. f. 1).

Hab. On dead wood, *Archer.*

17. **Agaricus (Omphalia) carneo-rufulus** (Berk.); pileo plano subcarnoso striato lamellisque decurrentibus pallide rufis, stipite adscendente flexuoso farcto. (Tab. CLXXXI. Fig. 3.)

Hab. On dead wood, *Archer.*

Whole plant of a pale red-brown. *Pileus* ½ inch across, plane, subcarnose, striate. *Stem* 1 inch high, scarce a line thick, downy at the base, fibrillose. *Gills* arched, moderately broad and distant, but more numerous than in *A. umbelliferus*, decurrent, pale reddish-brown.—Plate CLXXXI. Fig. 3; *a*, plant, *nat. size*; *b*, vertical section, *magnified.*

18. **Agaricus (Omphalia) umbelliferus** (Linn.; Fr. Ep. p. 124).

Hab. On the ground, *Gunn*, *Archer.*

Mr. Archer's is a pallid form, with very decurrent gills. Gunn collected abundant specimens of a variety varying from primrose to orange, according to age. Other forms also seem to be abundant.

19. **Agaricus (Omphalia) flavo-croceus** (Berk.); pileo convexo umbilicato glabro stipiteque elongato inæquali solido flavis, lamellis latis postice decurrentibus croceis.

Hab. Under logs, *Archer.*

Pileus ½ inch across, convex, umbilicate, pale-yellow, glabrous; margin jagged. *Stem* 2 inches high, 1 line or more thick, unequal, stringy, dull saffron-yellow, downy at the base. *Gills* rather numerous, broad, abruptly decurrent, saffron-yellow; margin entire; interstices even.—The numerous gills separate this from the yellow variety of *A. umbelliferus*, while it has the colours but not the narrow gills of *A. chrysophyllus.*

20. **Agaricus (Omphalia) integrellus** (Pers. Ic. et Desc. t. 13. f. 1).

Hab. On dead wood, *Archer.*

21. **Agaricus (Pleurotus) tephrophanus** (Berk.); pileo excentrico infundibuliformi brunneo rivuloso pulverulento, stipite hirto e basi strigosa oriundo, lamellis latis postice emarginatis.

Hab. On charred wood, *Archer.*

Pileus 1 inch across, brown, minutely wrinkled and pulverulent, infundibuliform, thin. *Stem* brown, hispid, ¾ inch high, 1 line thick, springing from a strigose base. *Gills* few, broad, emarginate behind, transversely striate, pale.—This curious species approaches in many respects to *Paxillus atrotomentosus*, but the gills are of a different character.

22. **Agaricus (Pleurotus) phosphorus** (Berk. in Hook. Lond. Journ. Bot. vii. p. 572).

Hab. On roots of trees, Oct.–Feb., *Gunn.*

So phosphorescent that Mr. Gunn was able to read by its light, and it remained luminous six days or more.—A specimen, supposed to belong to this species, but possibly *A. salignus*, was found growing on *Acacia dealbata*, from the cavity in which the caterpillar of a *Cossus* had been nursed, and entirely filling up the shell of the pupa with its mycelium, so as at first sight to appear parasitic upon the insect.

23. **Agaricus (Pleurotus) palmatus** (Bull. t. 216).

Var. *sessilis.*

Hab. On dead wood, *Archer.*

This appears to be a sessile form of the plant of Bulliard. There is but a single specimen.

24. **Agaricus (Pleurotus) diversipes** (Berk.); pileo umbilicato l. laterali pelliculo gelatinoso vestito, stipite subcartilagineo compresso cavo elongato brevi l. obsoleto, lamellis distantibus decurrentibus, interstitiis lævibus. (Tab. CLXXXI. Fig. 4.)

Hab. On dead wood, *Archer.*

Pileus 1–2 inches across, central or lateral, umbilicate or depressed behind, covered with a gelatinous pellicle. *Stem* very variable, elongated and slender, short or obsolete, subcartilaginous, downy at the base, flat, hollow. *Gills* distant, entire, decurrent, interstices even.—Allied to *A. Tasmanicus*, but distinguished by various characters.—Plate CLXXXI. Fig. 4; *a*, plant, *nat. size*; *b*, vertical section.

25. **Agaricus (Pleurotus) Tasmanicus** (Berk.); pileo reniformi lævi glabro pellicula gelatinosa vestito, stipite brevissimo tomentoso l. obsoleto, lamellis latis subdistantibus tenuibus.

Hab. On dead wood, *Archer*.

Pileus 1 inch or more across, reniform, smooth, even, clothed with a thin gelatinous pellicle. *Stem* short, pure white, downy, sometimes quite obsolete. *Gills* broad, distant, crisped when dry, decurrent where the stem is unusually elongated.—This species does not appear to be resupinate in any stage of growth; still it is allied to *A. algidus*, which is constantly sessile.

26. **Agaricus (Pleurotus) bursæformis** (Berk.); pileo postice affixo bursæformi albido tomentoso antice glabrescente, lamellis subdecurrentibus striatis.

Hab. On dead bark, *Archer*.

Ochry-white. *Pileus* 2 inches across, fixed by a little white down, purse-shaped, densely tomentose behind, smooth in front; margin incurved. *Stem* short, nearly smooth. *Gills* crowded, moderately broad, slightly decurrent, marked with transverse streaks. *Spores* subglobose, $\frac{1}{4000}$ inch long, pale tan-coloured.—I know of no species with which this singular Agaric can be compared. The form and adherent pileus, accompanied by a short stem, etc., are very peculiar.

27. **Agaricus (Pleurotus) applicatus** (Batsch.; Fr. Ep. p. 137).

Hab. On bark and dead wood, *Archer*.

28. **Agaricus (Volvaria) parvulus** (Weinm. Ross. p. 238).

Hab. On decayed wood, *Archer*.

A variety with a cinereous pileus.

29. **Agaricus (Pluteus) cervinus** (Schæff. t. 10).

Hab. On decayed wood, May, 1846, *Gunn*.

A form with a pallid, fibrillose stem.

30. **Agaricus (Entoloma) panniculus** (Berk.); pileo tenui campanulato obtuso flocculoso stipiteque deorsum incrassato fibrilloso basi albo-tomentoso atro-violaceis, lamellis adnatis secedentibus. (Tab. CLXXXI. Fig. 5.)

Hab. Amongst Fern, March, 1856, *Archer*.

Pileus broadly campanulate, $1\frac{1}{4}$ inch across, obtuse, but not distinctly umbonate, thin except in the centre, dark-violet, flocculent. *Stem* of the same colour as the pileus, $2\frac{1}{2}$ inches high, $1\frac{1}{4}$ line thick, fibrillose, thickened at the base, and clothed with cottony down. *Gills* moderately broad, scarcely ventricose, broadly adnate, but seceding. *Spores* oval, with several prominences, $\frac{1}{2000}$ inch long. *Smell* unpleasant.—This belongs to the Leptonoid group of *Entoloma*, resembling such species as *A. Lappula*, but without the slightest trace of an umbilicus.—Plate CLXXXI. Fig. 5; *a*, plant, *nat. size*; *b*, section of pileus and stem; *c*, spores:—*highly magnified*.

31. **Agaricus (Nolanea) pascuus** (Pers. in Schæff. t. 229).

Hab. Amongst leaves, on the ground, *Archer*.

There is a single specimen also in the collection of a Rhodosporous Agaric, quite indeterminable, with similar spores, but adnexed gills.

32. **Agaricus (Pholiota) mutabilis** (Schæff. t. 9).

Hab. On dead wood, *Archer*.

33. **Agaricus (Naucoria) furfuraceus** (Pers. Syn. p. 454).

Hab. On the ground, *Gunn*.

34. **Agaricus** (**Galera**) **tener** (Schæff. t. 70).

Hab. On the ground, *Gunn*.

35. **Agaricus** (**Crepidotus**) **hepatochrous** (Berk. in Hook. Lond. Journ. Bot. vii. p. 574).

Hab. On bark, *Gunn*.

36. **Agaricus** (**Crepidotus**) **interceptus** (Berk.); reniformis, ochraceo-albus, pileo e tribus stratis medio albo inter duo obscuriora intercepto, stipite brevissimo laterali. (Tab. CLXXXI. Fig. 6.)

Hab. On dead bark, *Archer*.

Pileus 1 inch across, ochraceous, white, reniform, conchate, consisting of three strata, of which the intermediate one is white. *Stem* very short. *Gills* numerous, moderately broad, pale-ochraceous. *Spores* pale-ochraceous, subglobose, $\frac{1}{3500}$ inch long.—Allied to *A. mollis*, but the upper stratum is not gelatinous.—Plate CLXXXI. Fig. 6; *a a*, plant, *nat. size*; *b b*, vertical section of ditto.

37. **Agaricus** (**Crepidotus**) **Auricula** (Berk.); pileo sessili carnoso postice adnato conchæformi, lamellis angustis pallidis confertis.

Hab. On dead wood, *Archer*.

Pileus 1 inch across, cream-coloured, conchiform, sessile, adnate behind. *Flesh* thick, brittle when dry; margin incurved. *Gills* narrow, pale. *Spores* lentiform, $\frac{1}{6000}$ inch long.—This species is remarkable for the thickness of its flesh, which is brittle when dry.

38. **Agaricus** (**Crepidotus**) **insidiosus** (Berk. in Hook. Lond. Journ. Bot. vii. p. 574).

Hab. On bark: Penquite, May, *Gunn*.

39. **Agaricus** (**Crepidotus**) **cassiæcolor** (Berk.); pileo resupinato postice affixo farinaceo lamellisque latiusculis cinnamomeis, stipite brevissimo candido tomentoso.

Hab. On dead bark, *Archer*. A larger form occurs on charred wood, approaching in size to *A. hepatochrous*, Berk., and there is also a smaller form on decorticated wood.

Pileus $\frac{1}{2}$–$\frac{3}{4}$ inch across, reniform, cinnamon-brown, farinaceous, at length fixed behind to the matrix, and resupinate. *Stem* very short and slender, white, tomentose. *Gills* moderately broad, cinnamon. *Spores* subcymbiform, hollowed out on one side, as is the case in most Agarics.—This species is closely allied to *A. hepatochrous*, which is a larger species, with a stout stem.

40. **Agaricus** (**Crepidotus**) **leptomorphus** (Berk.); sessilis, vertice byssoideo-affixus, pileo albido tomentoso, lamellis latiusculis umbrinis.

Hab. On dead wood, *Archer*.

Sessile, fixed at the vertex by a few delicate white threads, $\frac{1}{4}$ inch across, whitish, tomentose. *Gills* ventricose, umber, with a pale edge. *Spores* broadly elliptic, almost orbicular when seen from behind, $\frac{1}{4000}$ inch broad.—This is very nearly allied to *A. cassiæcolor*, but differs in colour, and is absolutely stemless.

41. **Agaricus** (**Psalliota**) **campestris** (L.; Fr. Ep. p. 213).

Hab. In pastures, *Gunn, J. D. H.*

42. **Agaricus** (**Psalliota**) **arvensis** (Schæff.; Fr. Ep. p. 213).

Hab. In pastures, *Gunn*.

43. **Agaricus** (**Psalliota**) **semiglobatus** (Batsch. f. 110).

Hab. On dung, *Gunn*.

44. **Agaricus** (**Hypholoma**) **fascicularis** (Hud.; Fr. Ep. p. 222).

Hab. On dead wood, *J. D. H., Gunn, Archer*.

45. **Agaricus (Hypholoma) dispersus** (Fr. Ep. p. 222).
HAB. On dead wood, *Archer*.

A small form, $\frac{1}{3}$ inch across.

46. **Agaricus (Psilocybe) spadiceus** (Schæff.; Fr. Ep. p. 225).
HAB. On dead wood, *Archer*.

47. **Agaricus (Psathyrella) disseminatus** (Pers. Syn. p. 403).
HAB. Amongst Moss, *Archer*.

Gen. II. COPRINUS, *P.*

Hymenophorum a stipite discretum. *Lamellæ* membranaceæ, primum stipato-cohærentes, dein diffluentes.

Distinguished from *Agaricus* by their deliquescent gills, and from *Bolbitius* principally by their habit, and black, not coloured spores. The species appear to be rare in Tasmania, though there is a trace, in the collections, of one or two besides the common *C. stercoreus*. (Name from κοπρος, *dung*.)

1. **Coprinus stercoreus** (Fr. Ep. p. 251).
HAB. On dung, *Archer*.

Gen. III. CORTINARIUS, *Fr.*

Hymenophorum cum stipite contiguum. *Lamellæ* membranaceæ, trama floccosa, pileo cohærentes, persistentes, decolorantes. *Velum* araneosum.

Distinguished from *Agaricus* by their peculiar habit and arachnoid veil. *Sporidia* cinnamon-red.—The European species are extremely numerous; one only appears to occur in Tasmania. (Name from *cortina*, a veil.)

1. **Cortinarius (Myxacium) Archeri** (Berk.); pileo convexo carnoso rivuloso brunneo-violaceo, stipite valido æquali viscoso violaceo, lamellis pallido-argillaceis latiusculis adnatis transversim rugosis.

HAB. On the ground: Cheshunt, April, 1856, *Archer*. (TAB. CLXXXI. Fig. 7.)

Pileus convex, fleshy, minutely rivulose, viscid, smooth, of a brownish violet. *Flesh* pallid, tinted near the gills with violet. *Stem* stout, equal, obtuse, 1 inch thick, viscid, violet, hollow above. *Veil* viscid. *Gills* moderately broad, adnate, subdecurrent, pale clay-coloured, slightly tinted with violet. *Spores* obliquely ovate, rather elongated, $\frac{1}{2300}$ inch long, and half as broad; sometimes however they are much longer.—This species is evidently closely allied to *C. elatus*, but the stout equal stem, thicker flesh, etc., distinguish it. The drawing exhibits merely the young unexpanded plant, and the single specimen is evidently that which was designed. In consequence of the upper part of the stem being hollow, the stem in the dried plant appears bulbous.—PLATE CLXXXI. Fig. 7: *a a*, plant, *nat. size*; *b*, vertical section; *c*, spores upon sporophora, *magnified*; *d*, spores, *more highly magnified*.

No certain specimen of the genus *Hygrophorus* appears in the collections, but there is a doubtful species, resembling *H. cossus*, and a drawing of a minute species with a solid stem, apparently allied to the small form of *H. miniatus*.

Gen. IV. LACTARIUS, *Fr.*

Trama vesiculosa. *Lamellæ* lactescentes.

A genus containing many species, distinguished from others, except *Russula*, by the vesiculose trama, and from that by the milky gills. The spores are often, but not always, globose and echinulate. The Tasmanian species appear to be rare. I have seen only one besides that described, but unfortunately indeterminable. (Name from *lac*, milk.)

1. **Lactarius stenophyllus** (Berk.); pileo infundibuliformi carnoso lutescenti-albido zonato, margine involuto, stipite farcto flexuoso, pileo concolore, lamellis angustissimis subincarnatis. (Tab. CLXXXI. Fig. 8.)

Hab. On the ground: Cheshunt, March, 1856, *Archer*.

Pileus 4 inches across, infundibuliform, dirty-white, tinged with yellow *Flesh* moderately thick, dirty-white; margin involute. *Stem* 1½ inch high, ½ inch thick, flexuous, rather uneven, smooth. *Gills* very narrow and crowded, pointed at the base, but scarcely decurrent, dirty-flesh-coloured. *Spores* ovate, smooth.—Unfortunately no specimens have been preserved of this species, which is clearly undescribed. The pellicle of the pileus is thick. It is allied apparently to *L. insulsus*. The gills are like those of *L. piperitus*.—Plate CLXXXI. Fig. 8; *a*, plant, *nat. size*; *b*, section of ditto; *c*, single spore:—*magnified*.

Gen. V. RUSSULA, *Fr.*

Trama vesiculosa. *Lamellæ* exsuccæ.

A large genus, distinguished from *Lactarius* by the gills being destitute of milk. One species only has been found in Tasmania, of which however I have seen no specimens. (Name from *russulus*, reddish; in consequence of red being a frequent colour in the genus.)

1. **Russula emetica** (Fr. Ep. p. 357).

Hab. Amongst leaves, dead bark, etc., *Archer*.

Gen. VI. CANTHARELLUS, *Adans.*

Hymenophorum inferum in tramam floccosam descendens, immutatum. *Lamellæ* crassæ, obtusæ.

A large genus, distinguished from *Agaricus* by the vein-like obtuse gills, which are not essentially reticulate. The species are either fleshy or membranaceous. One species only has been found in Tasmania. (Name from *cantharus*, a jar.)

1. **Cantharellus strigipes** (Berk.); pileo hepatico convexo, stipite concolore sursum attenuato e strigis fulvis oriundo, plicis angustis radiantibus.

Hab. Amongst charcoal, fern, etc., *Archer*.

Pileus ¼ inch across, plane or convex and subumbonate, brownish-grey. *Stem* 1 inch high, smooth, of the same colour, attenuated upwards, springing from radiating, tawny strigæ; *folds* narrow, radiating, grey.—The strigose base at once distinguishes this species when well developed. It has the habit of *C. umbonatus*.

Gen. VII. MARASMIUS, *Fr.*

Hymenophorum a stipite cartilagineo l. corneo heterogeneum. *Lamellæ* nunc latæ, nunc plicæformes, acie acuta, valleculis contiguis.—*Fungi membranacei l. carnoso-lenti revivescentes.*

Distinguished from *Agaricus* by the tough, coriaceous substance of the pileus, so that the species shrivel up but do not easily decay. Tasmania is not at all rich in species. (Name from *μαραινω*, *to wither*.)

1. **Marasmius hepaticus** (Berk. in Hook. Lond. Journ. Bot. v. p. 1).

Hab. On various dead substances, *Gunn*.

2. **Marasmius affixus** (Berk. sub *Agarico* in Hook. Lond. Journ. Bot. vii. p. 573); pileo hemisphærico demum resupinato albido stipiteque brevi farinaceo-tomentosis, lamellis paucis adnatis ochraceis, interstitiis lævibus.

Hab. On dead wood, growing on a *Thelephora* or *Mycelium*, resembling *T. sebacea, J. D. H.*

Gregarious. *Pileus* 1–2 lines or more across, subresupinate, dirty-white, hemispherical, slightly grooved, tomentose, often greyish or brownish when old, at length resupinate. *Stem* about 1 line high, tomentose, curved back. *Gills* few, adnate, thick, ochraceous; interstices even.—This species, like *M. epileucus*, Berk., seems generally to grow on a substance like *Thelephora sebacea*, but whether of the nature of a *Mycelium* or not I am unable to say. In some conditions the pileus becomes entirely attached, and then resembles *M. adhærens*, Berk. and Curt., a Venezuelan species.

3. **Marasmius subsupinus** (Berk.); pusillus, pileo convexo rugosiusculo furfuraceo postice adhærente, stipite brevi farinaceo, lamellis paucis rigidis planis.

Hab. On dead wood, *Archer*.

About $\frac{1}{3}$ of an inch across, ochraceous, with a rufous tinge, convex, rigid, furfuraceous, attached behind; border sulcate or crenate. *Stem* short, farinaceous. *Gills* few, rather thick, firm; edge entire, obtuse, plane or only very slightly ventricose.—The gills are so thick and rigid that this pretty species might almost be placed in *Lentinus*. It varies in colour from nearly white to rufous.

4. **Marasmius Eucalypti** (Berk.); pileo conico umbone operculiformi terminato l. obtuso brunneolo sericeo, stipite setæformi compresso nitente, lamellis ventricosis albis, interstitiis venosis.

Hab. On fruit and twigs of some *Eucalyptus, Archer*.

Pileus $\frac{1}{2}$–$\frac{1}{3}$ inch high, conical, brownish, silky, obtuse and truncate, or ending in an apiculate operculiform umbo; margin often reflected. *Stem* setiform, variable in length, dark, shining, sometimes branched and creeping. *Gills* few, cream-coloured, ventricose, attenuated above; interstices wrinkled.—A very distinct and beautiful species.

5. **Marasmius meloniformis** (Berk.); minutus, pileo hemisphærico spadiceo umbilicato profunde sulcato farinaceo, stipite setæformi nitido, lamellis albidis.

Hab. On leaves of *Eucalypti*, and on twigs, *Archer*.

Minute. *Pileus* $\frac{1}{3}$–1 line across, hemispherical, umbilicate, with about ten deep furrows and as many rounded ribs. *Stem* variable in length, sometimes creeping and branched, dark, shining. *Gills* few, white.—A pretty little species, allied to *M. hæmatocephalus*, etc.

Gen. VIII. LENTINUS, *Fr.*

Coriaceus l. carnoso-lentus. *Lamellæ* cum hymenophoro concretæ, discretæ (nec plicæformes), tenues, absque trama distincta, acie acuta dentata vel inciso-lacerata.

A fine genus, abounding in tropical climates, but not confined to them, and differing from *Agaricus* in the tougher, more persistent substance. The Tasmanian species approach nearer to tropical types than most other Tasmanian *Fungi*. (Name from *lentus*, tough.)

1. **Lentinus fasciatus** (Berk. in Hook. Journ. Bot. ii. p. 146).

Hab. On dead branches, *Gunn, etc.*

2. **Lentinus hepatotrichus** (Berk.); pileo ungulato hepatico antice glabrescente postice strigoso, lamellis latis pallidis margine crenato-dentatis. (Tab. CLXXXI. Fig. 9.)

Hab. On Stringy-bark Gum-tree: bank of Ovens Rivulet, July, 1855, *Archer*.

Pileus ungulate, sessile, $\frac{3}{4}$–1 inch broad, liver-coloured, at length smooth in front, behind covered with strigose tufts of hairs. *Gills* broad, distant, far paler than the pileus, and yellowish, with the edge strongly crenato-dentate. *Spores* dirty-white, elliptic.—Plate CLXXXI. Fig. 9; *a*, upper side, *nat. size; b*, under side, *ditto; c*, spores on sporophores.

3. **Lentinus pulvinulus** (Berk.); resupinatus vel vertice affixus, pulvinatus, pileo pallido glabro margine sulcato, lamellis latis ochroleucis integris. (Tab. CLXXXI. Fig. 10.)

Hab. On dead wood, *Archer*.

About $\frac{1}{3}$–1 inch across or resupinate, laterally attached, remarkably convex, smooth, ochraceous; margin sulcate. *Gills* very broad, yellowish, farinaceous; edge entire.—There are but three individuals of this very interesting species, and those not very perfect, but they show that it is quite distinct from anything that has hitherto been published in this beautiful group.—Plate CLXXXI. Fig. 10; *a*, plant, *nat. size*; *b*, vertical section.

There are two indifferent specimens in the Tasmanian collections of an obscure, smooth *Lentinus*, with an even stem, which is possibly undescribed, but I have not sufficient materials to draw up a good character.

Gen. IX. PANUS, *Fr.*

Carnoso-coriaceus, tenax, arescens. *Lamellæ* perfectæ, tenaces, inæquales, acie acuta integerrima, trama distincta fibrosa in hymenium radiante.

Distinguished from *Lentinus* by its fibrous trama, and the entire edge of the gills. (Name from *panus*, a web; in allusion to the nature of the trama.)

1. **Panus saccharinus** (Berk.); pileo reniformi horizontali subcarnoso, stipite brevi furfuraceo vel obsoleto, lamellis margine glanduloso-appendiculatis.

Hab. On dead wood, *Archer*.

From $\frac{1}{2}$–1 inch across, reniform, somewhat fleshy, wrinkled when dry, either entirely sessile or springing from a short furfuraceous stem. *Gills* moderately broad; edge glandular, as if dusted with sugar. The tint varies from ochraceous to lateritious.—This species is closely allied to *Panus stypticus*, but appears to be truly distinct. The gills are broader, and the pileus, though not smooth, is by no means broken up into furfuraceous scales.

Gen. X. XEROTUS, *Fr.*

Hymenophorum cum stipite contiguum, descendens in tramam cum pileo coriaceo-membranaceo tenui homogeneum. *Lamellæ* integræ, obtusæ, coriaceæ.

A most beautiful genus, resembling *Cantharellus*, but differing in substance, and in the broad gills of the more typical species. (Name from ξηρος, *dry*.)

1. **Xerotus Archeri** (Berk.); pileo reniformi minutissime ruguloso sulcato rufo, stipite brevissimo, margine deflexo, lamellis umbrino-brunneis inæqualibus simplicibus latiusculis distantibus paucis interstitiis lævibus. (Tab. CLXXXII. Fig. 1.)

Hab. On dead sticks, etc., *Archer*.

Pileus $\frac{3}{4}$ inch broad, red-brown, in parts paler, very minutely wrinkled, sulcate, smooth, at first furfuraceous; margin waved. *Stem* very short, lateral, pulverulent. *Gills* few, simple, moderately broad, waved, with shorter ones intermixed, brownish; interstices even.—Closely allied to *X. discolor*, which however differs in the absence of a stem, the more simple gills, etc. I have the same species from Chili.—Plate CLXXXII. Fig. 1; *a*, plant of *nat. size*.

2. **Xerotus papyraceus** (Berk.); papyraceus, pileo pallido striato l. lævi tenui, margine demum expanso, lamellis simplicibus fuscis l. pallidis. (Tab. CLXXXII. Fig. 2.)

Hab. On dead wood, *J. D. H.*, *Archer*.

Subimbricated, thin, pallid, at first convex, $\frac{1}{2}$ inch broad, striate; margin expanded. *Stem* very short or obsolete. *Gills* brown, simple, more numerous than in the last species.—This is very distinct, but its characters are

not easily defined. It is thinner, with scarcely any tint of red, and the gills are nearly twice as numerous. Dr. Hooker's specimens have the pileus even, and the gills pallid.—PLATE CLXXXII. Fig. 2; *a*, plant of *nat. size*.

Gen. XI. SCHIZOPHYLLUM, *Fr.*

Aridus, excarnis. *Lamellæ* coriaceæ, ramoso-flabelliformes, acie longitudinaliter fissa, lamellulis discretis extrorsum revolutis.

The split gills distinguish this genus from every species of the Agaricinous group except *A. schizophyllus*, from which the habit, substance, and whole character at once separate it. It appears to be rare in Tasmania, as might be supposed from the very European type of almost all its species. (Name from σχιζω, *to clean*, and φυλλον, *a leaf*.)

1. **Schizophyllum commune** (Fr. Ep. p. 403).

HAB. On dead wood, *J. D. H.*

It does not occur in the other collections. No species of *Lenzites* have yet been discovered, and the genus is also absent from New Zealand, except under the tropical form of *L. repanda*.

Gen. XII. BOLETUS, *L.*

Hymenophorum ab hymenio prorsus discretum, nec in tramam descendens; tubuli ab hymenophoro secedentes.

This genus, which contains many species, is in the series *Polyporei* what *Agaricus* is in *Agaricinei*, exhibiting at the same time the same loose connection between the hymenium and pileus as *Paxillus*. Exotic species are but little known, but those which have been noticed often exceed in beauty European forms. Two only have been distinguished in Tasmania, but there is evidence of other forms. (Name from *Boletus*, a mushroom; itself formed from βωλιτης.)

1. **Boletus fruticicola** (Berk. in Hook. Lond. Journ. Bot. vii, p. 574).

HAB. On the roots of shrubs, *Gunn*

2. **Boletus megalosporus** (Berk.); pileo plano subalutaceo, stipite deorsum incrassato areolato monticuloso sursum reticulato, poris incarnatis, sporis maximis uni-triseptatis. (TAB. CLXXXII. Fig. 3.)

HAB. On the ground, principally under trees: Cheshunt, *Archer*.

Pileus 4 inches across, flat but waved, tan-coloured, tinged with umber. *Stem* 2 inches high, bulbous, pale tan-coloured, reticulated above, below divided into pulvinate areolæ. *Tubes* rose-coloured. *Spores* oblong, uni-triseptate, $\frac{1}{250}$ inch long, $\frac{1}{600}$ broad.—Unfortunately no specimens have been preserved; the exact affinities cannot therefore be indicated, though the species is probably near *Boletus alutarius*. The large spores and very peculiar stem, with other characters, will at once point out the species.—PLATE CLXXXII. Fig. 3; *a*, plant, *nat. size*; *b*, spore, *magnified*.

Gen. XIII. POLYPORUS, *Fr.*

Hymenophorum inter poros in tramam descendens, sed cum eisdem in stratum proprium seu discolor mutatum. *Pori* cum pilei substantia contigui, a se invicem haud separabiles, primitus obsoleti seu minutissimi.

An enormous genus, containing many truly tropical species, of which scarcely one enters into the Tasmanian Flora. As in the 'Flora of New Zealand,' I retain the divisions proposed by Fries in his 'Epicrisis,' without however venturing any opinion contrary to his later views. (Name from πολυς, *many*, and πορος, *a pore*.)

1. **Polyporus (Mesopus) oblectans** (Berk. in Lond. Journ. Bot. iv. p. 51).
Hab. On the ground, *Gunn, Archer, J. D. H.*

I have no perfect specimens of white, fleshy, or coriaceous *Mesopodes*. There is however evidence of the occurrence of one or perhaps two species in Tasmania.

2. **Polyporus (Mesopus) rudis** (Berk. Ann. Nat. Hist. iii. p. 323). (Tab. CLXXXII. Fig. 4.)
Hab. On dead wood, *Lawrence, Gunn, Archer, etc.*

Plate CLXXXII. Fig. 4, plant of *nat. size.*

3. **Polyporus (Pleuropus) elegans** (Fr. Ep. p. 440).
Hab. On dead wood, *Archer.*

4. **Polyporus (Pleuropus) intonsus** (Berk.); pileo flabelliformi tenui velutino brunneo, stipite excentrico brevi, hymenio albo, poris minutis punctiformibus decurrentibus.
Hab. On dead wood, *Archer.*

Pileus flabelliform, 1 inch long and broad, depressed behind, thin, brown, with a rufous tinge, minutely velvety, somewhat virgate. *Stem* 2 lines high, $1\frac{1}{2}$ thick, attached by an orbicular disc. *Hymenium* white. *Pores* decurrent, minute, punctiform, $\frac{1}{180}$ inch across.—A small species, allied to *P. varius.*

5. **Polyporus (Pleuropus) lucidus** (Fr. Ep. p. 442).
Hab. On dead wood, *Lawrence, Gunn.*

6. **Polyporus (Pleuropus) sanguineus** (Fr. Ep. p. 444).
Hab. On dead wood, *Gunn.*

Apparently a rare species in Tasmania, although *P. cinnabarinus* is extremely abundant.

7. **Polyporus (Merisma) frondosus** (Fr. Ep. p. 446).
Hab. On dead trees, *Gunn.*

8. **Polyporus (Merisma) sulphureus** (Fr. Ep. p. 450).
Hab. On dead wood, *Gunn.*

9. **Polyporus (Merisma) radiato-rugosus** (Berk. in Ann. Nat. Hist. iii. 323).
Hab. On dead wood, *Gunn.*

10. **Polyporus (Anodermei) tephronotus** (Berk.); pileo molli tomentoso niveo postice brunneo, hymenio ex albo subcinerascente, poris minimis subrotundis. (Tab. CLXXXII. Fig. 5.)
Hab. On dead wood, *Archer.*

Pileus 2 inches or more across, $1\frac{1}{2}$ inch long, sometimes pulvinate, sometimes thin, tomentose, almost spongy, pure-white, changing behind to brown. *Hymenium* white, but gradually assuming a pale-cinereous tint. *Pores* minute, $\frac{1}{140}$ inch across, scarcely visible to the naked eye, punctiform.—This, though obviously belonging to the same section as *P. epileucus*, is allied to *P. angustus* and *rhinocephalus*. The older part sometimes becomes wrinkled, as in the latter species. There is a resupinate form, which at first sight seems distinct.—Plate CLXXXII. Fig. 5; plant of *nat. size.*

11. **Polyporus (Anodermei) campylus** (Berk.); pileo palmato lobato albo glabrescente, hymenio concavo, poris parvis irregularibus, margine obtusiusculo. (Tab. CLXXXII. Fig. 6.)
Hab. On dead wood, *Archer.*

Pileus slightly imbricated, $1\frac{1}{2}$–2 inches long, flabelliform, deeply lobed, and sometimes anastomosing, strongly curved when dry, white, slightly grooved, nearly smooth. *Hymenium* concave, white. *Pores* irregular, $\frac{1}{80}$ inch across; edge rather obtuse.—This belongs to the same section as *P. borealis*, and is at once distinguished by its strongly lobed margin, which is deeply incurved when dry.—Plate CLXXXII. Fig. 6; plant of *nat. size.*

12. **Polyporus (Anodermei) angustus** (Berk.); pileo angusto antice renascente pallido subtomentoso postice exoleto scabriusculo fusco decurrenti-adnato, hymenio albo, poris minimis angulato-punctiformibus. (Tab. CLXXXII. Fig. 7.)

Hab. On dead wood, *Archer*.

Pileus $\frac{1}{2}$–$\frac{1}{3}$ inch long, $2\frac{1}{2}$ inches wide, decurrenti-affixed, behind exolete, brown, slightly scabrous, in front pale, slightly tomentose. *Hymenium* white. *Pores* very minute, $\frac{1}{170}$ inch across, not visible to the naked eye, angulari-punctiform. *Substance* white, moderately firm.—This species seems strictly biennial. The more recent parts gradually acquire a resinous appearance, and at length become brown and almost laccate.—Plate CLXXXII. Fig. 7, *nat. size*.

13. **Polyporus (Anodermei) rhinocephalus** (Berk.); pileo dimidiato conchato tenui albido primum tomentoso demum scabro-venoso l. aculeato, poris ex albido cinereis minutis. (Tab. CLXXXII. Fig. 8.)

Hab. On dead wood, *Archer*.

Pileus 1 inch broad, $\frac{3}{4}$ inch wide, dimidiate, conchate, thin, rigid when dry, at first white tomentose, nearly even, at length scabro-venous or aculeate, becoming resinous, and at length brown. *Hymenium* concave, at first pale like the pileus, then cinereous. *Pores* minute, angular, $\frac{1}{140}$ inch across.—This species appears to be allied to *P. adustus*, but is more rigid when dry, and has a very different aspect. It is also closely allied to *P. angustus*.—Plate CLXXXII. Fig. 8, *nat. size*.

14. **Polyporus (Anodermei) Gunnii** (Berk.); pileo flabellato tenui albido sordescente tomentoso rugosiusculo subzonato, intus niveo, hymenio albo, poris irregularibus mediis.

Hab. On twigs, etc.: Back River Gully, New Norfolk, *Gunn, J. D. H.*

Pileus flabelliform, 3–4 inches across, $2\frac{1}{2}$ inches long, thin, slightly wrinkled, sometimes obscurely zoned, tomentose, dirty-white, becoming brownish; edge very thin. *Hymenium* white. *Pores* irregular, $\frac{1}{40}$ inch across. *Dissepiments* toothed.—Allied to *P. adustus*.

15. **Polyporus (Anodermei) pelliculosus** (Berk. in Hook. Lond. Journ. Bot. vii. p. 575).
Hab. On dead wood, *Gunn, Archer, etc.*

16. **Polyporus (Placodermei) portentosus** (Berk. in Hook. Lond. Journ. Bot. iii. p. 188).
Hab. On dead wood, *Gunn, Archer, etc.*

Allied to *P. betulinus*.

17. **Polyporus (Placodermei) ochroleucus** (Berk. in Hook. Lond. Journ. Bot. iv. p. 53).
Hab. On trunks of trees, *Gunn*.

18. **Polyporus (Placodermei) australis** (Fr. Ep. 464).
Hab. On dead wood, *Gunn, Archer, etc.*

Common on *Fagus Cunninghamii*.

19. **Polyporus (Placodermei) igniarius** (Fr. Ep. p. 160).
On dead wood, *Gunn, etc.*

A very large form occurs on *Eucalyptus*.

20. **Polyporus (Placodermei) Gourliæi** (Berk.); dimidiatus, pileo convexo parce zonato stuppeo-velutino umbrino contextu molli-suberoso porisque mediis angulatis concoloribus.

Hab. On bark. Communicated by the late *Mr. W. Gourlie*.

About 1 inch across, $\frac{2}{3}$ long, dimidiate, convex, umber, tinged with yellow, with two or three zones, clothed, especially behind, with coarse pubescence. *Substance* moderately soft, pale-umber. *Pores* $\frac{1}{80}$ inch across, irregular, unequal; *dissepiment* rather thick.—Allied to *P. fulvus*, Fr., and *P. excavatus*, Berk.

21. **Polyporus (Placodermei) Laurencii** (Berk.).—Polyporus rubiginosus, *Berk. in Ann. Nat. Hist.* iii. *p.* 324 (*not of Fries*).

Hab. On dead wood, *Gunn, etc.*

22. **Polyporus (Placodermei) Tasmanicus** (Berk.); pileo angusto sulcato pallide fulvo tomentoso, hymenio contextuque concoloribus, poris minutis punctiformibus.

Hab. On dead wood, *Archer.*

Pileus apparently of several years' growth, very narrow, grooved, pale-tawny when young, slightly tomentose. *Hymenium* and *substance* of the same colour. *Pores* minute, punctiform, substratose, $\frac{1}{120}$ inch across.—This species resembles *P. conchatus* and *salicinus*, but the substance is of a far paler hue, and the appearance different.

23. **Polyporus (Inodermei) cinnabarinus** (Fr. Ep. p. 473).

Hab. On dead wood, *Gunn, Archer, J. D. H., etc.*

24. **Polyporus (Inodermei) scruposus** (Fr. Ep. p. 473).

Hab. On dead wood, *Gunn.*

I believe my *P. isidioides* is merely a state of this.

25. **Polyporus (Inodermei) lilacino-gilvus** (Berk. in Ann. Nat. Hist. iii. p. 324).

Hab. On dead wood, *Gunn, Archer, etc.*

26. **Polyporus (Inodermei) brunneo-leucus** (Berk. in Hook. Lond. Journ. Bot. v. p. 4).

Hab. On dead wood, *Gunn, Archer, etc.*

27. **Polyporus (Inodermei) versicolor** (Fr. Ep. p. 478).

Hab. On dead wood, *Gunn, Archer, J. D. H.*

28. **Polyporus (Inodermei) vernicifluus** (Berk.); pileo dimidiato subflabelliformi tenui vernicoso-polito rufo, hymenio pallido, poris minutis irregularibus.

Hab. On dead wood, *Archer.*

Pileus 1 inch broad, $\frac{3}{4}$ inch long, thin, slightly zoned, dimidiato-flabellate, covered with a thin, shining, rufous varnish; edge uneven, thin. *Hymenium* pale. *Pores* minute, scarcely visible to the naked eye, irregular, $\frac{1}{150}$ inch across; dissepiments thin.

29. **Polyporus (Inodermei) Friesii** (Kl. Linn. viii. t. 11).

Hab. On dead wood, *J. D. H.*

This species occurs also in the warmer parts of the United States.

30. **Polyporus (Resupinatus) apricus** (Berk.); resupinatus, effusus, laxe adhærens, xylostromaticus, cervino-pallidus, poris mediis sparsis, dissepimentis tenuibus.

Hab. On dead timber, *J. D. H.*

Effused, of a pallid fawn-colour, tinged here and there with yellow, membranous, adhering loosely, in parts slightly reflexed and tomentose. *Pores* occupying detached patches, $\frac{1}{70}$ inch across, pale fawn-coloured, angular; dissepiments thin, their edge acute.

31. **Polyporus (Resupinatus) merulinus** (Berk.); resupinatus, effusus, aurantiacus, subiculo tenui membranaceo tomentoso, poris mediis dissepimentis membranaceis.

Hab. On dead wood, *Archer.*

Orange-coloured, resupinate, effused, without any definite margin, or only the thin, somewhat membranaceous, tomentose subiculum. *Pores* elongated from their position, darker than the subiculum, small, $\frac{1}{70}$ inch across; disse-

piments thin, membranaceous.—This species has a Merulioid aspect, but is a true *Polyporus*, allied to *P. aneirinus*. Its dark-orange pores must render it a pretty species when fresh.

32. **Polyporus (Resupinatus) Archeri** (Berk.); resupinatus, effusus, armeniacus, coriaceo-membranaceus, margine tomentoso, poris minutis irregularibus, acie acuta.

Hab. On dead wood, *Archer*.

Effused, resupinate, coriaceo-membranaceous, apricot-coloured; margin tomentose, flat or slightly raised. *Pores* minute, $\frac{1}{100}$ inch across, irregular; edge acute.—The coriaceo-membranaceous texture and bright apricot tint easily distinguish this pretty species. Occasionally parts of the plant are bleached. The pores are much smaller than in *P. apricus*, which however differs in other respects.

33. **Polyporus (Resupinatus) orbicularis** (Berk. in Ann. Nat. Hist. iii. p. 324).

Hab. On dead wood, *Gunn*.

34. **Polyporus (Resupinatus) latus** (Berk. in Ann. Nat. Hist. iii. 325).

Hab. On dead wood, *Gunn, J. D. H.*

35. **Polyporus (Resupinatus) dædaleoides** (Berk. in Ann. Nat. Hist. iii. 325).

Hab. On dead wood, *Gunn*.

36. **Polyporus hyalinus** (Berk.); resupinatus, albus, vitreus, tenuis, ambitu tomentoso, poris minimis centro elongatis.

Hab. On dead decorticated wood, *Archer*.

Resupinate, thin; border tomentose, but tolerably even, not spreading out into byssoid threads. *Hymenium* much cracked when dry. *Pores* hyaline, very minute, elongated in the centre, $\frac{1}{150}$ inch across.—Allied to *P. vitreus*, but very thin and delicate.

37. **Polyporus (Resupinatus) vaporarius** (Fr. Ep. p. 487).

Hab. On dead wood, *Archer*.

Gen. XIV. HEXAGONIA, *Fr.*

Hymenophorum descendens in tramam cum pilei substantia omnino concolorem et similem. *Pori* alveolares primitus dilatati.

Distinguished from *Polyporus* by its regular, large pores, shaped like the cells of a honeycomb. The species are mostly tropical. (Name from ἑξ, *six*, and γωνια, *an angle*.)

1. **Hexagonia Gunnii** (Berk.).—Polyporus vesparius, *Berk. in Ann. Nat. Hist.* iii. *p.* 323.

Hab. On trunks of *Eucalyptus, Gunn, Archer, etc.*

Gen. XV. FAVOLUS, *Fr.*

Carnoso-lentus. *Hymenium* reticulatum, cellulosum, alveolatum. *Alveoli* radiantes e lamellis dense anastomosantibus formati, elongati, parietibus duplicatis.

The species approach some of the fleshy *Polypori*, but they differ in the cells being dilated from the first, as in *Hexagonia*. (Name from *favus*, a honeycomb.)

1. **Favolus pusillus** (Fr. in Linn. v. p. 511).

Hab. On dead wood, *Gunn*.

Gen. XVI. MERULIUS, *Hall.*

Hymenium ceraceo-molle, plicis obtusis reticulatum.

The reticulate folds distinguish this genus from its allies. The species belong principally to temperate regions. *M. corium* is very widely distributed, and assumes various forms. (Name originally given to the Morel, from *merus*, pure (safe to eat), and transferred to Fungi with a reticulate hymenium by Haller.)

1. **Merulius corium** (Fr. El. p. 58).
HAB. On dead wood, *Archer.*

2. **Merulius pallens** (Berk. in Ann. Nat. Hist. vi. 357).
HAB. On dead wood, *Archer.*

Some states are scarcely distinguishable from *Phlebia.*

Gen. XVII. POROTHELIUM, *Fr.*

Hymenium papillatum, papillæ demum aperte cum hymenophoro contiguæ.

The resupinate species are immediately connected with *Polyporus* by the corky *P. rugosum*, from South America. From *Fistulina* the genus is distinguished by habit rather than by any definite characters. (Name from πορος, *a pore*, and θηλη, *a pap.*)

1. **Porothelium subtile** (Fr. Ep. p. 504).
HAB. On dead wood, *Archer.*

Gen. XVIII. HYDNUM, *L.*

Hymenium aculeatum; *aculei* liberi, deorsum spectantes, nisi in resupinatis.

A large genus, containing the greater part of the Fungi which bear true prickles in contradistinction to broken pore-walls on the hymenium. *H. repandum*, a Tasmanian species, is one of the best esculent Fungi. (Name from ὑδνον, *a fungus.*)

1. **Hydnum lævigatum** (Swartz; Fr. Syst. i. p. 399).
HAB. On the ground, *Archer.*

2. **Hydnum repandum** (L. Suec. 1258).
HAB. On the ground, *J. D. H.*

3. **Hydnum cervinum** (Berk.); resupinatum, effusum, immarginatum, vinoso-pallidum, primitus subtiliter tomentosum, aculeis setiformibus.
HAB. On dead wood, *Archer.*

Very thin, effused, resupinate, at first minutely tomentose, arachnoid, then partially shining, as if washed with a delicate coat of gum, of a pallid-fawn tint. *Prickles* slender, short, setiform.

4. **Hydnum filicicola** (Berk.); resupinatum, effusum, immarginatum, album, tenue, setulis basi poroso-connexis applanatis acutis.
HAB. On dead Fern-stems, *Archer.*

Resupinate, thin, effused, immarginate, white, forming a thin membrane neither distinctly farinose nor tomentose. *Teeth* connected at the base so as to form imperfect pores, flat, acuminate, often triangular.—An obscure species, which bears a distant resemblance to *Polyporus vaporarius*, and approaches in its characters the genus *Irpex.*

5. **Hydnum udum** (Fr. Ep. p. 517).

Hab. On dead wood, *Archer*.

Gen. XIX. IRPEX, *Fr.*

Hymenium inferum, primitus dentatum; *aculei* varii, seriatim l. reticulatim dispositi basique plicis lamellosis (in sessilibus) porosisve (in resupinatis) concatenati.

Distinguished from *Hydnum* by the connected teeth. From *Polypori* they differ in not being essentially porous. (Name from *irpex*, a harrow.)

1. **Irpex Archeri** (Berk.); albus, resupinatus, margine tomentoso arachnoideo, dentibus reticulato-connexis brevibus palmatis. (Tab. CLXXXIII. Fig. 1.)

Hab. On dead wood, *Archer*.

Effused, resupinate, white; margin thin, tomentose, arachnoid, barren. *Teeth* connected at the base, short, palmate.—This curious species is allied to *Radulum palmatum*, Berk., and with that and one or two more will probably form a genus distinguished from *Irpex* by its palmate teeth. In *R. palmatum* (Ann. Nat. Hist. ix. p. 445) the teeth are one or two lines long; in this, which has essentially the same structure, they do not exceed half a line. The genus, if it be thought worthy of being distinguished, may be called *Cladodontia*.—Plate CLXXXIII. Fig. 1; *a*, plant, *nat. size*; *b*, hymenium, *magnified*.

Gen. XX. GRANDINIA, *Fr.*

Hymenium amphigenum, ceraceum, primitus granulosum, granulis subsphæricis obtusis excavatisque.

Distinguished from allied genera by the granular nature of the aculei. The species approach sometimes very close to *Kneiffia*. (Name from *grando*, hail; in allusion to the granular hymenium.)

1. **Grandinia granulosa** (Fr. Ep. p. 527).

Hab. On decorticated wood, *Archer*.

2. **Grandinia australis** (Berk.); resupinata, effusa, immarginata, pallida, rimosa, intus nivea, hymenio granulato, granulis uni-bipapillatis.

Hab. On dead wood, *Archer*.

Entirely effused and resupinate, without any evident margin, pale, white within, cracked. *Hymenium* rough with unequal granules, each of which has one or more distinct papillæ.—This appears to be quite distinct from any of the European species, and to approach near to *Kneiffia*, from which it differs only in the papillæ not being prolonged into bristles.

Gen. XXI. ODONTIA, *Fr.*

Hymenium inferum, fibroso-contextum, protrudens verrucas apice cristato-multifidas inter se discretas.

A genus consisting of a few species only, separated from *Hydnum* by its wart-like, crested aculei. (Name from ὀδους, *a tooth*.)

1. **Odontia secernibilis** (Berk.); resupinata, membranacea, secernibilis, alba, aculeis brevissimis compressis subdivisis.

Hab. On dead wood, *J. D. H., Archer*.

Resupinate, separating entirely from the matrix, white, membranaceous, rather irregular. *Teeth* very minute, short, tomentose, compressed, slightly divided or toothed.—This has the habit of *H. ochraceum*, but the teeth of *Odontia*.

Gen. XXII. CRATERELLUS, *Fr.*

Carnosi. *Hymenium* distinctum, immutabile, demum subrugosum.

The species of this genus are analogous to *Cantharellus*, but belong to a different series. The only Tasmanian species looks like a stipitate *Merulius corium*. (Name from κρατηρ, *a goblet.*)

1. **Craterellus Pusio** (Berk.); aurantiacus, pileo laterali convexo, stipite lævi sursum incrassato, hymenio rugoso venoso.

Hab. Amongst Moss, *Archer.*

Orange. *Pileus* 2–3 lines across, convex, lateral. *Stem* about 2 lines high, incrassated above. *Hymenium* concave, darker than the pileus, rugoso-venose.—A small but very pretty species.

Gen. XXIII. THELEPHORA, *Fr.*

E carnoso rigescentes, subcoriacei; *hymenio* cum pileo anodermeo concreto, ramoso-costato papillosove.

In the more typical species the hymenium is various, papillary, or venose, but in some it is nearly even. The absence of any cuticle is an important character affecting the form, which is usually less definite than in *Stereum.* (Name θηλη, *a pap*, and φερω, *to bear.*)

1. **Thelephora riccioidea** (Berk.); resupinata, arcte affixa, radiato-ramosa, pallida.

Hab. On the bare soil: New Norfolk, *Gunn.*

Three inches or more across, closely fixed to the soil, radiating, branched, dirty-white; divisions dilated above, convex or concave.—This rather coarse species differs from every other with which I am acquainted. At first sight it somewhat resembles *Thelephora sebacea*, but it is essentially branched.

2. **Thelephora Sowerbeii** (Berk.).—Helvella pannosa, *Sow. t.* 155.

Hab. On the ground, *Gunn, Archer, etc.*

3. **Thelephora Archeri** (Berk.); dichotoma, stipitibus deorsum connatis, ramis compressis sursum dilatatis ochraceis, apicibus acutis brunneis. (Tab. CLXXXIII. Fig. 2.)

Hab. On the ground, *Archer.*

About $1\frac{3}{4}$ inch high, dichotomous. *Stems* springing from a white, downy mycelium, combined below into a solid cylindrical mass, 2 lines thick, branched two or three times, forked, ochraceous; tips acute, brown.—Plate CLXXXIII. Fig. 2; plant, *nat. size; b*, portion, *magnified.*

4. **Thelephora sebacea** (Fr. Ep. p. 542).

Hab. Running over *Jungermanniæ*, etc., *J. D. H.*

From the minuteness of the plants round which it grows, the specimens have a different appearance from those of Europe, but it seems to be the same species.

5. **Thelephora viridis** (Berk.); resupinata, effusa, immarginata, tomentoso-mollis, viridis, hymenio granulato.

Hab. On dead wood, *Archer.*

Effused, about an inch broad, dull-green, of a soft tomentose substance. *Hymenium* covered with minute granules, not visible to the naked eye. In colour it resembles *Hydnum viride.*

Gen. XXIV. STEREUM, *Fr.*

Hymenium coriaceum, sat crassum, cum strato intermedio pilei dermatini concretum, læve, semper immutatum et contiguum, persistens.

The Tasmanian species are for the most part European. *S. lobatum* is a tropical and subtropical form. (Name from στερεος, *stiff.*)

1. **Stereum lobatum** (Kze. in Weig. Exs.).
Hab. Tasmania, *Gunn, Archer, Lawrence, J. D. H.*

2. **Stereum purpureum** (Fr. Ep. p. 548).
Hab. On dead wood, *Archer.*

3. **Stereum hirsutum** (Fr. Ep. p. 549).
Hab. On dead wood, *J. D. H., Gunn, Archer.*

4. **Stereum concolor** (Berk.); albidum, pileo dimidiato postice decurrente molli tomentoso per exsiccationem contracto involuto, hymenio lævi concolore.
Hab. On twigs, dead branches, etc., *Archer.*

Dirty-white, sometimes tinged with ochre. *Pileus* dimidiate or effuso-reflexed, decurrent behind, soft, tomentose, contracted and involute when dry. *Hymenium* smooth, even, of the same colour as the pileus.—Distinguished from every form of *S. hirsutum* by its less coriaceous substance, in consequence of which it is contracted when dry.

5. **Stereum spadiceum** (Fr. Ep. p. 549).
Hab. On dead wood, *Archer.*

6. **Stereum illudens** (Berk. in Hook. Lond. Journ. Bot. iv. p. 59).
Hab. On dead wood, *J. D. H., Gunn, Archer.*

7. **Stereum rubiginosum** (Fr. Ep. p. 550).
Hab. On dead wood, *Archer.*

8. **Stereum Archeri** (Berk.); resupinatum, effusum, immarginatum, secernibile, vinoso-fuscum, setulosum, intus umbrinum.
Hab. On dead wood, *Archer.*

Effused, resupinate, rigid when dry, moderately thick, of a deep mulberry-brown, setulose, very sparingly cracked, umber within, separating from the matrix.—Allied to *Stereum rubiginosum.*

9. **Stereum acerinum** (Fr. Ep. p. 553).
Hab. On bark, *Archer.*

Gen. XXV. CORTICIUM, *Fr.*

Hymenium amphigenum, vegetum et fertile tumens, carnoso-molle, udum, undulatum papillosumve, siccitate collabens, lævigatum, sæpissime rimoso-incisum.

Distinguished from *Thelephora* and *Stereum* by the softer, more tender hymenium. (Name from *cortex*, bark; in consequence of the habitat of many of the species.)

1. **Corticium ochroleucum** (Fr. Ep. p. 557).
Hab. On dead wood, *Archer.*

2. **Corticium Mougeotii** (Fr. Ep. p. 558).
Hab. Tasmania, *Archer.*

This beautiful species occurs in the Himalaya, as well as in Europe and Tasmania.

3. **Corticium læve** (Fr. Ep. p. 560).
Hab. On dead wood, *Archer.*

4. **Corticium roseum** (Fr. Ep. p. 560).
HAB. On dead wood, *Archer*.

5. **Corticium sulphureum** (Fr. Ep. p. 561).
HAB. On dead wood, *Archer*.

6. **Corticium cretaceum** (Fr. Ep. p. 566).—Thelephora cretacea, *Obs.* i. *p.* 153.
HAB. On dead bark, *Archer*.

7. **Corticium Archeri** (Berk.); resupinatum, rufo-pallidum, intus album, crassiusculum, rimosum, immarginatum.
HAB. On charred wood, *Archer*.

Effused, resupinate, immarginate, of a dirty pale-rufous, cracked, white within.—Allied to *C. carneum*.

8. **Corticium arachnoideum** (Berk. in Ann. Nat. Hist. xiii. p. 345).
HAB. On dead wood, *Archer*.

Specimens occur in the collection which I at first referred to *Auricularia minuta*, Berk., but I am now inclined to refer them as a var. to *S. hirsutum*.

Gen. XXVI. GUEPINIA, *Fr.*

Gelatinosa, subtremellina, intumescens, sicca contrahitur, subcartilaginea. *Hymenium* definite inferum vel primitus superum, immutatum, persistens.

Between *Thelephora* and *Tremella*. Some of the species are beautiful Fungi. (Name from *Guepin*, a French botanist.)

1. **Guepinia Peziæformis** (Berk. in Hook. Lond. Journ. Bot. iv. p. 60).
HAB. On dead wood, *J. D. H.*, *Gunn*, *etc.*

Gen. XXVII. CYPHELLA, *Fr.*

Submembranacea, postice adnata, subporrecta, pendula, raro erecta. *Hymenium* ut plurimum inferum, non discretum, demum inæquabile.

This genus includes those cup-shaped Fungi which are destitute of true asci. The species are mostly small and obscure. (Name from κυφος, *leaning forward*.)

1. **Cyphella muscigena** (Fr. Ep. p. 567).
HAB. On mossy twigs, *Archer*.

2. **Cyphella capula** (Fr. Summa. p. 336).
HAB. On dead bark, *Archer*.

Gen. XXVIII. CLAVARIA, *L.*

Carnosa, ramosa l. simplex, teres absque stipite distincto; hymenio contiguo, sicco.

A vast genus, represented in Tasmania by several European forms, of which one or two are esculent. I have seen two other species besides those here enumerated, but cannot determine them from dried specimens. (Name from *clava*, a club.)

1. **Clavaria Botrytis** (Pers. Fr. Ep. p. 571).
HAB. On the ground, *Archer*.

2. **Clavaria cristata** (Holmsk. Fr. Ep. p. 572).

Hab. On the ground, and on Fern-stems, *Archer*.

A fuliginous variety, which is sometimes divided, sometimes simply clavate, and then approaching the dark state of *Clavaria rugosa*.

3. **Clavaria lutea** (Vittadini, Fung. Mang. t. 29. f. 3).

Hab. On the ground, *Archer*.

4. **Clavaria inæqualis** (Muell. Fr. Ep. p. 577).

Hab. On the ground, *Archer*.

There are two forms in the collection, a larger and a smaller.

5. **Clavaria Archeri** (Berk.); fasciculata, brevis, aurantiaca, flabellato-clavata, rugosiuscula. (Tab. CLXXXIII. Fig. 3.)

Hab. On the ground, *Archer*.

About 1 inch high, tufted, orange, flabellato-clavate from a thin stem, slightly wrinkled.—A very pretty species, approaching in appearance some of the pale *Thelephoræ*. There is a taller variety of a deeper tint, and less tufted growth.—Plate CLXXXIII. Fig. 3, plants, *nat. size*.

6. **Clavaria rhizomorpha** (Berk.); erumpens, confluens, castaneo-rubra, subsimplex. (Tab. CLXXXIII. Fig. 4.)

Hab. On dead bark, *Archer*.

Springing from cracks in the bark, confluent at the base, of a rich chestnut-red, simple or very slightly branched, irregular, obtuse.—A very singular species, with the habit of *Calocera*.—Plate CLXXXIII. Fig. 4, plants, *nat. size*.

7. **Clavaria juncea** (Fr. Ep. p. 579).

Hab. On twigs, *Archer*.

The Tasmanian form is very slender, and creeps frequently for several inches along decayed twigs. It is, I believe, the same with *Calocera filum*, Lév., a Chilian Fungus, confounded by Léveillé with *Crinula Gayana*, M., which, however similar in appearance when incomplete, is distinguished when perfect by its abrupt, terminal, globular head.

Gen. XXIX. CALOCERA, *Fr.*

Omnia *Clavariæ* excepto *contextu* firmo gelatinoso.

Distinguished from *Clavaria* by the gelatinous substance, in consequence of which, when dry, the plant appears horny. (Name from καλος, *beautiful*, and κερας, *a horn*.)

1. **Calocera Guepinioides** (Berk. in Hook. Lond. Journ. Bot. iv. p. 61).

Hab. On dead wood, *J. D. H.*, *Archer*.

The Tasmanian specimens belong to the simple form.

Gen. XXX. TREMELLA, *Dill.*

Gelatinosa, tremula, immarginata, enucleata, contextu floccoso, epapillosa, undique fructificans. *Sporæ* e sporophoris discretis oriundæ, simplices.

Separated from *Dacrymyces* by its simple, not septate spores, and from some others of the section by its more gelatinous substance and indeterminate hymenium. (Name from *tremulus*, trembling; in allusion to the soft substance.)

1. **Tremella frondosa** (Fr. Ep. p. 588).
HAB. On dead wood, *Gunn.*

2. **Tremella foliacea** (Fr. Ep. p. 588).
HAB. On dead wood, *Gunn, Archer.*

3. **Tremella lutescens** (Fr. Ep. p. 588).
HAB. On dead wood, *Archer.*

4. **Tremella mesenterica** (Retz, Fr. Ep. p. 588).
HAB. On dead wood, *Gunn, Archer.*

Both spermatiferous and sporiferous.

5. **Tremella albida** (Huds. Fr. Ep. p. 589).
HAB. On dead wood, *Archer.*

6. **Tremella olens** (Berk.); irregularis, gelatinosa, pallida, olens, sporis oblongis. (TAB. CLXXXIII. Fig. 5.)
HAB. On dead wood, *Archer.*

Irregular, dirty-white, inclining to brown, effused, slightly lobed. *Spores* oblong, $\frac{1}{1750}$–$\frac{1}{2000}$ inch in length, accompanied by very minute subglobose spermatia. *Smell* faint, unpleasant.—When dry, forming a shapeless mass, like the young state of some *Gasteromycete*. I have seen no globose or lobed sporophores in this species.—PLATE CLXXXIII. Fig. 5; *a*, structure; *b*, spores; *c*, spermatia:—*all magnified.*

7. **Tremella viscosa** (Berk. et Br. in Ann. Nat. Hist. xiii. p. 406).
HAB. On dead wood, *Archer.*

Gen. XXXI. EXIDIA, *Fr.*

Gelatinosa, tremula, submarginata, contextu floccoso, subtus sterilis; *hymenio* papillato.

Distinguished at once from *Tremella* by the inferior surface being sterile, and the upper papillate. (Name from *exsudo*, to ooze out.)

1. **Exidia glandulosa** (Fr. Ep. p. 591).
HAB. On dead wood, *Archer.*

Gen. XXXII. HIRNEOLA, *Fr.*

Tremula, sed non gelatina distenta, subtus hispidula; *hymenio* lævi, distincto.

Separated from *Exidia* on account of its firmer substance and even hymenium. In most of the species the barren surface is hispid. *H. auricula* is found in almost every part of the world. (Name from *hirnea*, a vessel.)

1. **Hirneola Auricula-Judæ** (Berk.). (Exidia, *Fr.*)
HAB. On dead wood, *Gunn.*

2. **Hirneola vitellina** (Mont. Syll. p. 182); pallida, orbicularis, undulata, pusilla, stipite brevi compresso, sporis endochromate multiannulato.—*Berk. in Fl. Antarct. p.* 240. *t.* 164. *f.* 3. Exidia vitellina, *Lév.* (TAB. CLXXXIII. Fig. 6.)
HAB. On dead wood, *Archer.*

Pale honey-coloured (orange or deep-yellow), $\frac{1}{3}$ inch across, orbicular, umbilicate, undulated, even beneath. *Stem* short, compressed, darker than the pileus. *Spores* $\frac{1}{1250}$–$\frac{1}{1500}$ inch long, hyaline, curved, obtuse above, rather pointed at the base. *Endochrome* hyaline, divided into several annular masses, which are sometimes again divided;

threads flexuous, often suddenly curled over at the origin of the branches.—This description is taken from the Tasmanian specimens, but the Fuegian and Chilian plants appear to be the same thing, differing only in their brighter colour.—PLATE CLXXXIII. Fig. 6, structure of plant; *b b*, spores, more or less *magnified.*

Gen. XXXIII. DACRYMYCES, *Nees.*

Omnia *Tremellæ* exceptis sporis septatis conidiis magnis spermatiisque e sporis oriundis.

The hymenium is more or less indeterminate, as in *Tremella*, but the spores are septate, and the spermatia grow on the spores. There are also large conidia, formed from the articulations of the terminal branchlets. (Name from δακρυ, *a tear*, and μυκης, *a fungus.*)

1. **Dacrymyces deliquescens** (Duby).

HAB. On dead wood, *Archer.*

The cells in the curved spores vary from four to six.

2. **Dacrymyces miltinus** (Berk.); pusilla, cinnabarina, gyroso-lobata. (TAB. CLXXXIII. Fig. 7.)

HAB. On hard, dry wood, *Archer.*

Of a bright, red-orange, short, wavy, lobed. *Spores* oblongo-reniform, at length 6-septate, $\frac{1}{1250}-\frac{1}{1500}$ inch long. *Sporophores* swollen.—The brighter colour, larger and more swollen sporophores, and 6-septate spores, distinguish this species from *D. deliquescens.*—PLATE CLXXXIII. Fig. 7; *a*, plants, *nat. size; b*, sporophores; *c*, spore:—*both magnified.*

3. **Dacrymyces sclerotioides** (Berk.); albus, orbicularis, centro depressus, pezizæformis. (TAB. CLXXXIII. Fig. 8.)

HAB. On dead bark, *J. D. H.*

About 1 line broad, white, orbicular, depressed in the centre, almost cartilaginous. *Nucleus* firm; *ultimate apices* of some of the branches clavate and septate.—This and the following species agree in the septate tips of some of the branches, corresponding with the deciduous tips in the asporous form of *D. deliquescens.* In neither have I at present found true spores.—PLATE CLXXXIII. Fig. 8; *a*, plants, *nat. size; b, c*, structure, *magnified; d*, ditto in *D. seriatus.*

4. **Dacrymyces seriatus** (Berk.); erumpens, seriatus, albidus, sublutescens, irregularis, substratosus.

HAB. On dead bark, *Archer.*

Forming rows of confluent, small, dirty-white, subcartilaginous patches, which exhibit within three or four concentric lines of growth. Tips of some of the threads clavate and septate.

Gen. XXXIV. OCTAVIANIA, *Vitt.*

Integumentum molliusculum, haud ægre solubile; trama e fibris byssaceis intexta. *Sporæ* sphæricæ, demum echinatæ.

A genus of Truffles, allied to *Hydnangium*, but differing in its more easily separable integument, fibrous not cellular trama, and globose spores. (Name from *Ottaviani*, an Italian mycophilist.)

1. **Octaviania Archeri** (Berk.); obovata, pusilla, basi sterili satis magna, fibrillis nullis, trama compacta, sporis globosis echinatæ.

HAB. On sandy ground, *Archer.*

Obovate, $\frac{1}{4}$ inch high. *Peridium* very thin, passing into a thick sterile base, from which proceeds a little

down, binding the sand together without any decided filaments. *Trama* compact. *Spores* globose, $\frac{1}{1200}$ inch across, strongly echinulate.—This agrees with *Hydnangium* in the trama separating in the centre, in consequence of its compact structure, and with *Octaviania* in its sterile base. There is only a single specimen, much eaten by insects.

Gen. XXXV. LYSURUS, *Fr.*

Receptaculum sursum divisum in lacinias æquales integras l. emarginatas, apicibus liberis.

This genus is distinguished from *Clathrus* by the free apices of the laciniæ, and from *Aseroë* by their not being deeply bifid. (Name from λνω, *to loosen*, and ουρα, *a tail;* from the free divisions.)

1. **Lysurus Archeri** (Berk.). (Tab. CLXXXIV.)

Hab. On the ground, *Archer.*

Plate CLXXXIV. Fig. 1, young plant, and volva of old; 2, expanded plant; 3, laciniæ:—*all nat. size;* 4, transverse section of lacinia; 5, tips of ditto; 6, surface of ditto; 7 and 8, threads of structure; 9, spores:—*all magnified.*

Gen. XXXVI. ILEODICTYON, *Tul.*

Volva universalis, globosa, intus gelatinosa. *Receptaculum* sessile, cancellatum, ramis late fistulosis nec porosis ilia mentientibus. *Hymenium* setis parieti interno adhærens.

Distinguished from *Clathrus* by the hollow branches of the receptacle. (Name from ειλεος, *an intestine*, and δικτυον, *a net.*)

1. **Ileodictyon gracile** (Berk. in Lond. Journ. Bot. iv. p. 69).

Hab. On the ground (May), *Gunn, Archer, etc.* (Eaten when young.)

Gen. XXXVII. GEASTER, *Mich.*

Peridium duplex; exterius discretum, persistens, radiis stellatis expansis dehiscens.

Distinguished from other Puff-balls by their radiate external peridium. (Name from γη, *the earth*, and αστηρ, *a star.*)

1. **Geaster tenuipes** (Berk. in Hook. Lond. Journ. Bot. vi. p. 576). (Tab. CLXXXIII. Fig. 9.)

Hab. On the ground, *Gunn.*

Plate CLXXXIII. Fig. 9, plant, *nat. size; a*, orifice, *magnified.*

2. **Geaster Archeri** (Berk.); saccatus, peridii exterioris flaccidi laciniis acuminatis, interiore sessili, ore plicato. (Tab. CLXXXIII. Fig. 9 *bis.*)

Hab. On the ground, *Archer.*

Outer peridium split halfway down into about seven acuminate laciniæ, so as to form a deep sac, in which the inner perfectly sessile peridium is sunk; orifice plicate, but less so than in *G. striatus*, not rising from a distinct orbicular disc.—This differs from the small form of *G. striatus* in the perfectly sessile inner peridium, the less regularly plicate orifice, and the saccate outer peridium. It is a small species, scarcely exceeding an inch in diameter when dry. It differs from *G. saccatus* in the nature of the orifice.—Plate CLXXXIII. Fig. 9 *bis*, plant, *nat. size.*

3. **Geaster saccatus** (Fr. Syst. Myc. iii. p. 16).

Hab. On the ground, *Gunn, Archer, etc.*

4. **Geaster fimbriatus** (Fr. Syst. Myc. iii. p. 16).

Hab. On the ground, *J. D. H.*

5. **Geaster australis** (Berk.); peridio exteriori rigido in lacinias plures ovatas semipartito, peridio interiori omnino sessili, ore subindeterminato, ciliato-dentato.

Hab. On the ground, *Archer.* (Tab. CLXXXIII. Fig. 10.)

Outer peridium rigid, cleft halfway down into about six ovate laciniæ; *inner peridium* perfectly sessile; *orifice* distinctly ciliate, split into several teeth. *Spores* dark, even, about $\frac{1}{3000}$ inch across.—Resembling *G. limbatus*, but the peridium is perfectly sessile. From *G. rufescens* it is distinguished by its distinctly ciliate orifice, and from *G. fimbriatus* by its rigid outer peridium. When expanded it is about 2 inches across.—Plate CLXXXIII. Fig. 10, plant, *nat. size.*

Gen. XXXVIII. BOVISTA, *Dill.*

Peridium papyraceum, persistens, cortice discreto demum secedente. *Sporæ* pedicellatæ.

The distinct outer peridium and pedicellate spores distinguish this from common Puff-balls. One species only occurs in Tasmania, which is nearly allied to a European species, with similarly coloured spores. (Name Latinized from the German, *bofist*, a puff-ball.)

1. **Bovista lilacina** (Mont. et Berk. in Hook. Lond. Journ. Bot. iv. p. 64).

Hab. On the ground, *Gunn.*

Gen. XXXIX. LYCOPERDON, *Tourn.*

Peridium membranaceum, flaccescens aut superne evanescens, cortice adnato subpersistente, in squamas l. verrucas varias abeunte. *Capillitium* molle, basi sterili peridioque adnatum.

The species of this genus are for the most part widely diffused and very variable. The spores are pedicellate in one or two species. (Name from λυκος, *a wolf*, and περδω, in allusion to the ancient notion as to their origin.)

1. **Lycoperdon pyriforme** (Schæff. t. 189).

Hab. On the ground, *Archer.*

2. **Lycoperdon gemmatum** (Fr. Ep. p. 36).

Hab. On the ground, *Gunn, Archer, etc.*

3. **Lycoperdon Gunnii** (Berk.); sessilis, subglobosa, minutissime stellato-verrucosa, columella brevi, sporis longe pedunculatis.

Hab. In pastures, New Norfolk, June, *Gunn.*

1–2 inches across, subglobose, olive. *Inner coat* shining, clothed with very minute stellate warts. *Columella* short. *Spores* globose, smooth, bright-olive, $\frac{1}{6000}$ inch long, supported on a peduncle three times their own diameter.

4. **Lycoperdon glabrescens** (Berk.); breviter pedunculatum, subhemisphæricum, umbrinum, ciliato verrucosum, glabrescens, capillitio sporisque pedunculatis umbrinis, pedunculo intus subviolaceo, ore conico.

Hab. On sandy ground, Oct. 1845, *Gunn.*

Subhemispherical, $1\frac{1}{2}$ inch across, umber, plicate below, clothed with minute starry warts above, gradually becoming smooth. *Stem* short, sending out two or three fibrous roots, cellular within and tinged with violet. *Columella* indistinct. *Capillitium* and globose pedunculate spores, which are $\frac{1}{3500}$ inch across, umber; mouth conical. *Peduncles* twice as long as the spores.

5. **Lycoperdon australe** (Berk.); sessile, radicans, globoso-depressum, minute aculeato-verrucosum, glabrescens, strato sterili parvo l. obsoleto, sporis capillitioque umbrinis, ore demum conico aperto.

Hab. On the ground, *J. D. H., Gunn.*

This was sent under the same number with *L. glabrescens*, which it much resembles, but the barren stratum is small or obsolete, and if present differently coloured. The spores are not pedunculate, and are rather smaller.

Gen. XL. SCLERODERMA, *P.*

Peridium firmum, irregulariter l. stellatim dehiscens. *Flocci* peridio undique adnati, vacuolis immixtis minutis in quibus glomeruli sporarum apicibus floccorum oriundarum absque peridiolo nidulantur.

Resembling Truffles, especially when growing in sand, but differing very materially in structure. (Name from σκληρος, *hard*, and δερμα, *skin*.)

1. **Scleroderma Geaster** (Fr. Syst. Myc. p. 46).

Hab. On the ground, *Archer.*

Gen. XLI. MITREMYCES, *Nees.*

Peridium externum, corneum, ore determinato dentibus squamæformibus coloratis clauso, velum ruptum cartilagineum; interius sacciforme, discretum, minutum, ex ore suspensum.

A very curious genus of plants, occurring in the United States, the Himalayas, etc., but not in Europe. (Name from μιτρα, *a bonnet*, and μυκης, *a fungus*; in allusion to the calyptriform deciduous veil.)

1. **Mitremyces fuscus** (Berk. in Ann. Nat. Hist. iii. p. 325).

Hab. On the ground, *Gunn, Archer, etc.*

Gen. XLII. MESOPHELLIA, *Berk.*

Peridium crassum, coriaceum, substratosum, capillitium fasciculato-anastomosans ad columellam centralem suberosam radians. *Flocci* flexuosi. *Sporæ* breviter fusiformes, utrinque obtusiusculæ.—Genus *Cyclodermati*, Klotzsch, affine. Species unica hypogæa.

(Name from μεσος, *middle*, and φελλος, *cork*.)

1. **Mesophellia arenaria** (Berk. in Linn. Tr. xxii. p. 131. t. 25 C).

Hab. In the sandy soil, *Archer.*

From $\frac{3}{4}$–1 inch across, elliptic, somewhat depressed, subterraneous, clothed externally with white flocci, which attach themselves to little grains of sand. After the external down has been removed, in old specimens dark branched veins are seen to run over the peridium, without however giving off free bundles of threads, as in *Hysteromyces*. *Peridium* single, coriaceous, apparently consisting of several closely compacted strata, like wasp pasteboard. *Flocci* pinkish-grey, radiating in little fascicles from the peridium to the large central corky columella. *Spores* fusiform, short, slightly obtuse at either end, $\frac{1}{2250}$ of an inch long, of the same colour as the flocci.

This genus approaches close to *Cycloderma*, Klotzsch, but there is no inner peridium; the columella is not attached, and the spores are fusiform instead of globose. It is a most interesting addition to Fungi, and, like *Cycloderma*, connects *Trichogastres* with *Myxogastres*. The early condition of the plant is however quite unknown. The colour of the spores reminds one of *Lycogala*, and the veins of the peridium of *Hysteromyces*.

Gen. XLIII. ÆTHALIUM, *Ll.*

Peridium indeterminatum, membranoso-cellulare, fragile, fatiscens, extus strato floccoso evanescente corticatum, intus e floccis in strata membranacea coalitis cellulosum.

The only species is universally distributed, and is the pest of hothouses, from its abundant dusty spores. (Name from αιθαλη, *soot*.)

1. **Æthalium septicum** (Fr. Syst. iii. p. 93).

Hab. Amongst fallen leaves, *Gunn*.

Gen. XLIV. DIDERMA, *Pers.*

Peridium duplex, exterius crustaceum, discretum, glabrum, fragile, dehiscens; interius tenerrimum, membranaceum, evanescens. *Flocci* vagi, versus basin adnati, aut sæpius columellæ affixi interque sporas compactas repentes, raro latentes.

The only Tasmanian species in the collection is one of the commonest European forms. Probably others will reward future researches. (Name from δις, *double*, and δερμα, *a skin*.)

1. **Diderma vernicosum** (Pers. Syn. p. 165).

Hab. On sticks, *Archer*.

Gen. XLV. DIDYMIUM, *Schrad.*

Peridium membranaceum, tenue, irregulariter dehiscens aut fatiscens, tectum cortice (peridio externo non discreto) adnato in squamulas furfuraceas aut villum farinosum mox fatiscente. *Flocci* vagi, peridio adnati, inter sporas repentes.

Here again we have one of the commonest European forms. (Name from διδυμος, *double*.)

1. **Didymium costatum** (Fr. Syst. Myc. iii. p. 118).

Hab. On sticks, moss, etc., *Archer*.

The stem is longer than in the state described by Fries, and the peridium umbilicate. *Columella* white; *flocci* dark.

Gen. XLVI. PHYSARUM, *Pers.*

Peridium simplex, membranaceum, nudum, irregulariter dehiscens. *Columella* nulla. *Sporæ* floccis peridio adnatis intertextæ.

The perfect, simple, delicate peridium, combined with the absence of a columella, at once characterize this genus. The Tasmanian representatives are altogether European. (Name from φυσαω, *to puff up*.)

1. **Physarum nutans** (Pers. Syn. p. 203).

Hab. On *Sterea*, etc., *Archer*.

Peridium white. *Stem* tawny.

2. **Physarum hyalinum** (Pers. Syn. p. 170).

Hab. On moss, etc., *Archer*.

The peridium is globose, and the stems pale, but of the same nature as those of *P. hyalinum*, though agreeing in colour with those of *P. utriculare*. The two species are probably mere forms of one. I have, in fact, undoubted *P. hyalinum*, from Fries, marked *P. utriculare*. Both belong to the genus *Badhamia*, should it be found that it is really distinct from *Physarum*, or, in other words, if *Physarum* has ever solitary spores.

Gen. XLVII. CRATERIUM, *Trentepohl.*

Peridium simplex, operculatum. *Capillitium* e floccis subloculosum.

A very curious genus, confined to temperate regions, remarkable for its operculum and peculiar habit. (Name from κρατηρ, *a goblet.*)

1. **Craterium minutum** (Fr. Syst. Myc. iii. p. 151).

Hab. On grass, *Archer.*

Gen. XLVIII. STEMONITIS, *Gled.*

Peridium simplex, tenuissimum, membranaceum, fugax. *Capillitium* determinatum, *stipiti* intranti adnatum. *Flocci* reticulati.

The genus *Stemonitis* is a columellate *Physarum*. Its species are mostly widely diffused, and some flourish both in hot and temperate regions. One Tasmanian form is remarkable for its rough spores. (Name from στημων, *a thread or stem.*)

1. **Stemonitis fusca** (Roth, Germ. i. p. 448).

Hab. On dead wood, *Gunn.*

2. **Stemonitis oblonga** (Fr. Syst. Myc. iii. p. 159).

Hab. On decayed wood, *Archer.*

3. **Stemonitis echinuluta** (Berk.); peridio globoso columbino-chalybeo, stipite valido aterrimo sursum attenuato semipenetrante, capillitio pallido globoso, sporis magnis eleganter echinulatis.

Hab. On moss, *Archer.*

Peridium globose, very thin, showing dove-like prismatic hues, thicker and persistent below. *Stem* longer than the peridium, very dark, stout, attenuated upwards, passing halfway into the cavity of the peridium. *Capillitium* compact, growing from the columella. *Spores* $\frac{1}{1500}$ inch across, beautifully echinulate.—Allied to *S. arcyrioides*, but remarkable for its stout stem and large spores.

Gen. XLIX. TRICHIA, *Hall.*

Peridium simplex. *Columella* nulla. *Capillitium* elasticum, floccis vascularibus.

The spiral threads distinguish this from all *Myxogastres*. The species are for the most part widely diffused, but, besides common forms, Tasmania has two very distinct species. (Name from θριξ, *a hair.*)

1. **Trichia rubiformis** (Pers. Syn. p. 176).

Hab. On dead wood, *Archer.*

2. **Trichia metallica** (Berk.); peridio lentiformi fulvo metallicis coloribus ornato subtus umbilicato, stipite brevi cylindrico carneo, floccis rectis radiantibus sporisque incarnato-fulvis.

Hab. On dead wood, *Archer.*

Peridium lentiform, tawny, adorned with various metallic tints, frequently disposed in little specks like granulations, flattened or umbilicate beneath. *Stem* short, cylindrical, flesh-coloured. *Flocci* slender, radiating. *Spores* $\frac{1}{2500}$ inch across, reddish-ochre, like the flocci, inclining to tawny.—The most beautiful of all the *Trichiæ*, though small, and singularly distinct. Its nearest ally is *Trichia fallax.*

3. **Trichia chrysosperma** (DC. Fl. Fr. ii. 250).

Hab. On dead wood: Sassafras Valley, *Archer, J. D. H.*

The stem is sometimes far more distinct than usual.

4. **Trichia varia** (Pers. Syn. p. 181).

Hab. On dead wood and moss, *Archer.*

5. **Trichia verrucosa** (Berk.); subcæspitosa, peridio turbinato sordide ochraceo, stipite debili filiformi decumbente sporis magnis verrucosis.

Hab. On charred wood, *Archer*.

Somewhat crowded or scattered. *Peridia* dull-ochre, turbinate, seated on a filiform, weak, decumbent stem. *Spores* globose, verrucose, $\frac{1}{1750}$ inch across, yellow, as well as the capillitium.—This species, which at first sight resembles *Trichia varia*, is at once distinguished by its large verrucose spores.

Gen. L. PERICHÆNA, *Fr.*

Peridium simplex, sæpe circumscissum. *Flocci* rari, sporis immixti.

This genus resembles *Trichia*, but is at once distinguished by the absence of vascular hairs. (Name from περι, *around*, and χαινω, *to gape*.)

1. **Perichæna contorta** (Fr. Syst. Myc. iii. p. 192).

Hab. On dead wood, *Archer*.

Paler than usual, and with no trace of capillitium.

Gen. LI. LICEA, *Schrad.*

Peridium tenue, irregulariter dehiscens. *Sporæ* laxæ. *Flocci* nulli.

Distinguished by the utter absence of flocci from all *Myxogastres*, except one or two of the more obscure *Perichænæ*. The only Tasmanian species is a strictly European form. (Origin of name unknown.)

1. **Licea fragiformis** (Fr. Syst. Myc. iii. p. 196).

Hab. On dead wood: Penquite, *Gunn*.

Gen. LII. CYATHUS, *Pers.*

Peridium primum obovatum vel fusiforme, obtusum, apice demum centrali dehiscens, et velo candido tympani instar clausum, e membranis tribus arcte invicem applicatis compositum. *Sporangia* plana, umbilicata, funiculo parietibus addicta. *Sporæ* sporophoro innatæ.

Of this curious genus there is but one Tasmanian species, identical with one of the two New Zealand forms, and resembling the European *C. vernicosus*. (Name from *cyathus*, a cup.)

1. **Cyathus Colensoi** (Berk. in Fl. N. Zeal. p. 192).

Hab. On cowdung, etc., *Gunn*, *Archer*.

Gen. LIII. SPHÆROBOLUS, *Tode.*

Peridium duplex, interius demum elastice inversum et sporangium solitarium globosum ejiciens. *Sporæ* sporophoro adnatæ.

Distinguished from *Cyathus* and its allied genera by the solitary sporangium which is shot out of the peridium, by the inversion of the inner coat, like a shell out of a mortar. The structure of the sporangia is essentially the same. (Name from σφαιρα, *a ball*, and βαλλω, *to cast*.)

1. **Sphærobolus stellatus** (Tode, Meck. i. p. 43).

Hab. On decayed wood, *Archer*.

Gen. LIV. SPHÆRONEMA, *Fr.*

Perithecium liberatum vel omnino liberum. *Sporæ* demum exsudantes apicique perithecii adhærentes.

This, like other genera of sporiferous *Sphæria*, is composed of more or less doubtful species, inasmuch as they may be spermatiferous forms of higher genera. Till more however is known on the subject, it is needful to retain them in their appointed place; and even after due eliminations have been made, it is very possible that there may still be really autonomous productions amongst them. (Name from σφαιρα, *a globe*, and ναιμα, *gelatine*.)

1. **Sphæronæma rufum** (Fr. Syst. Myc. ii. p. 536).

Hab. On exposed wood, *Archer*.

The specimens on analysis exhibit the structure of a *Sclerotium*, as in fact do many true *Sphæriaceæ* in a young state. It is curious that this is the only production of the group which has been collected in Tasmania. It is scarcely however credible that such productions as *Phoma*, *Leptostroma*, etc., should be entirely wanting.

Gen. LV. ÆCIDIUM, *Gmel.*

Sporæ concatenatæ, in soros congestæ, peridio membranaceo demum lacerato-aperto cinctæ.

The delicate peridium and the bright spores which it encloses make these little parasites extremely pretty objects. The species are however comparatively rare in the southern hemisphere. Two of the three Tasmanian species appear to be perfectly distinct from those of Europe. (Name from αικιον, *a wheal*, and ειδω, *to resemble*.)

1. **Æcidium soleniæforme** (Berk.); maculis orbicularibus fuscis, peridiis cylindricis elongatis candidis apice laciniato-radiatis, sporis subangularibus aurantiacis.

Hab. On pods of *Goodia latifolia*, *Archer*.

Forming round brown spots. *Peridia* crowded, central, white, nearly a line long, irregularly divided above. *Spores* mostly angular, often 5–6-angled, about $\frac{1}{1000}$ inch across; border of cells of the peridium striate.—Resembling *Æcidium Berberidis*.

2. **Æcidium cystoseiroides** (Berk.); pustulatum, folia deformans, peridio immerso, sporis aurantiacis subangulatis.

Hab. On *Opercularia varia*, *J. D. H.*, *Gunn*.

Forming little pustules on the upper side of the leaves, which it swells out so as to look like the fruit of a *Cystoseira*. *Peridia* immersed within the pustules, bursting at the apex. *Spores* rather angular, orange, very minutely echinulate, at first forming necklaces.

3. **Æcidium ranunculacearum** (DC. Fl. Fr. vi. p. 97).

Hab. On a small species of *Ranunculus*: St. Patrick's River, Nov. 1844, *Gunn*.

Gen. LVI. USTILAGO, *Lk.*

Receptaculum effusum, e cellulis minimis irregularibus compositum. *Sporæ* minores simplices, pulveraceæ.

Most of the species have loose soot-like spores, but in a few they are closely compacted. (Name from *ustus*, burnt.)

1. **Ustilago solida** (Berk.); compacta, globosa, atra, sporis subglobosis lævibus. (Tab. CLXXXIII. Fig. 11.)

Hab. On *Chætophora imberbis*: Penquite, Dec. 1845, *Gunn*.

Forming little, globose, pill-shaped, compact bodies, scarcely a line across, jet-black. *Spores* aggregate, subglobose, $\frac{1}{1250}$ inch in diameter, mostly smooth, but rarely exhibiting two or three flat vesicular prominences, mixed with shreds of tissue and threads.—This species connects *Ustilago* and *Sporisporium*.—Plate CLXXXIII. Fig. 11, plant, *nat. size*; *a*, group of spores, *magnified*; *b*, separate spores, *highly magnified*.

Gen. LVII. PILACRE, *Fr.*

Peridium capitatum, supra membranaceum, tenerrimum, fatiscens. *Sporæ* subglobosæ, in strato supero peripherico coacervatæ.

Small Fungi, with the habit of *Onygena*, but allied to the Moulds. (Name from πιλος, *a hat*, and ακρον, *the top of anything*.)

1. **Pilacre divisa** (Berk. in Fl. N. Zeal. p. 197).

Hab. On dead wood, *Archer*.

The specimens are imperfect and undivided, but they appear to belong to the same species with those from New Zealand.

Gen. LVIII. ISARIA, *Hill.*

Receptaculum elongatum, floccosum, floccis sporiferis rectis tectum. *Sporæ* nudæ.

Isariæ are essentially compound *Sporotricha*, and, like them, are for the most part mere conditions of higher Fungi. Some however are autonomous. (Name from ισος, *equal;* from the equal height of the individual plants of the original species.)

1. **Isaria radians** (Berk.); cervino-grisea, orbicularis, ramosa, undique floccis verticillatis vel subdichotomis vestita, sporis ellipticis minimis.

Hab. On bark, *Archer*.

Forming patches $\frac{3}{4}$–1 inch broad. *Receptacle* branched, radiating, composed of threads, the free portions of which are verticillate or subdichotomous, each branchlet being terminated by an elliptic spore $\frac{1}{6000}$ inch long.—This species resembles *Isaria umbrina*, Pers., but the decidedly branched receptacle and radiating patches easily distinguish it. It is not accompanied by any *Sphæria*, but whether autonomous or not I am unable to say.

Gen. LIX. TRICHODERMA, *Pers.*

Peridium indeterminatum, e floccis ramosis septatis contextum, demum in medio evanescens. *Sporæ* minutæ, siccæ, in disco conglobatæ.

The species are probably not autonomous, and resemble collapsed patches of Mould. (Name from θριξ, *a hair*, and δερμα, *a skin*.)

1. **Trichoderma viride** (Pers. Syn. p. 230).

Hab. On dead bark, *Archer*.

Gen. LX. VERTICILLIUM, *Nees.*

Flocci ramosi, ramis verticillatis apice monospermis. *Sporæ* simplices.

Little Moulds, known by their distinctly whorled branches. Of exotic species very little is known. (Name from *verticillus*, a whorl.)

1. **Verticillium niveum** (Berk.); candidum, ramosum, ramulis basi incrassatis breviusculis, sporis oblongis.

Hab. On dead Agarics, *Archer*.

Snow-white, delicate, branched. *Whorls* consisting of about three branchlets, which are acute above, and thickened below. *Spores* oblong, $\frac{1}{4000}$ inch long.—Differs from *V. agaricinum* in its shorter branches, more delicate habit, and far smaller spores.

Gen. LXI. POLYACTIS, *Lk.*

Flocci decolorantes, subfusci, rami versus apicem cymosi l. paniculati. *Sporæ* simplices.

Brownish Moulds, at first white, irregularly branched, with the ramuli mostly near the apex, and forming little cymes or panicles, but not verticillate. (Name from πολυς, *many*, and ακτις, *a ray*.)

1. **Polyactis vulgaris** (Lk. Obs. i. p. 14. f. 22).

Hab. On dead twigs, *Archer*.

The few perfect individuals that I have seen are but slightly divided above, but the plant seems a mere form of the common *P. vulgaris*. The spores are slightly obovate, and about $\frac{1}{3500}$ inch long.

Gen. LXII. RHINOTRICHUM, *Corda*.

Flocci sursum incrassati, spiculiferi, spiculis sporiferis. *Sporæ* subglobosæ.

Distinguished from *Botrytis* by the swollen tips of the threads, which are studded with the spores. (Name from ῥωγη, *a file*.)

1. **Rhinotrichum microsporum** (Berk.); filis agglutinatis, clavulas subcylindricas efformantibus, apicibus cylindrico-clavatis, sporis globosis minutis.

Hab. On soil, *Archer*.

White. *Mycelium* at first creeping, then agglutinated into little fascicles, so as to form short Isariæform clubs, but frequently barren; ultimate flocci cylindrico-clavate, obtuse, studded with very minute spicules, each of which bears a globose spore $\frac{1}{5000}$ inch in diameter.—This has the habit of an *Isaria*, and is moreover distinguished by its minute spores.

Gen. LXIII. MORCHELLA, *Dill.*

Receptaculum clavatum l. pileatum. *Hymenium* costis elevatis lacunosum. *Asci* fixi.

Morels occur in many parts of the world, and the common species is collected in the northern Himalayas, for food, as it is in Europe. I have seen but a single immature Tasmanian specimen. (Name Latinized from the German, *Morchel*.)

1. **Morchella esculenta,** δ *conica* (Fr. Syst. Myc. ii. p. 7).

Hab. On the ground, *Archer*.

Gen. LXIV. HELVELLA, *L.*

Receptaculum pileatum, centro suffultum, deflexum. *Hymenium* læve, superum. *Asci* fixi.

Distinguished at once from Morels by their lobed, even receptacle. Some of the species are esculent, as is probably the Tasmanian form. (Name applied to some Fungus or esculent vegetable by Cicero.)

1. **Helvella monachella** (Fr. Syst. Myc. ii. p. 18).

Hab. In the valley on the north side of Cuming's Head, about halfway up, Nov. 1855, *Archer*.

This is rather larger than the European form, but differs in no other respect. The pileus is dark-brown, lobed, deflexed, and adnate; the stem pale rufous, and smooth.

Gen. LXV. LEOTIA, *Hill.*

Receptaculum pileatum, orbiculare, margine revolutum, supra margineque fructiferum. *Hymenium* læve. *Asci* fixi.

The smooth, orbicular, revolute head, with its tumid margin, characterizes this genus. The typical species has an extremely wide range. (Name probably from λειος, *smooth*.)

1. **Leotia lubrica** (Pers. Syn. p. 613).

Hab. On the ground, *Archer*.

Gen. LXVI. MITRULA, *Fr.*

Carnoso-mollis, capitatus. *Receptaculum* clavatum, inflatum, a stipite discretum. *Asci* fixi.—Fungi *læte colorati*.

Distinguished principally from *Geoglossum* by their brighter colours and different habit. (Name, a diminution of *Mitra*.)

1. **Mitrula vinosa** (Berk.); vinoso-purpurea, gracilis, lineari-clavata, sporidiis lineari-oblongis minutis curvis.

Hab. On dead wood, *Archer*.

About 2 inches high, of a vinous-purple. *Stem* filiform, smooth, swelling above into a cylindrical head. *Sporidia* linear-oblong, curved, $\frac{1}{3000}$ inch long.—Closely allied to *Mitrula Berterii*, M., which is of a deep-brown tint, and has the sporidia scarcely curved.

Gen. LXVII. GEOGLOSSUM, *Pers.*

Carnosum. *Receptaculum* simplex, clavæforme, stipitatum. *Hymenium* clavam ambiens. *Asci* elongati.—Fungi *saturate colorati*.

The more typical species are very distinct from *Mitrula*; others are almost confluent with that genus. The only Tasmanian species belongs to a European type, and is very widely diffused. (Name from γη, *the earth*, and γλωσσα, *a tongue*.)

1. **Geoglossum glabrum** (Pers. Syn. p. 488).

Hab. On the ground, amongst Moss, and on Fern-stems, *Archer*.

Gen. LXVIII. PEZIZA, *Dill.*

Receptaculum carnosum vel subcarnosum, marginatum, cupulæforme, primo clausum, subtus sterile. *Asci* fixi.

This large genus is amply represented in Tasmania, and under a great variety of forms, which belong, however, to European types. (Name from *Pezica*, a term used by Pliny for stemless Fungi.)

1. **Peziza aurantia** (Pers. Obs. ii. p. 76).

Hab. On the ground, *Gunn*.

2. **Peziza cochleata** (Huds.; Fr. Syst. vol. ii. p. 50).

Hab. On the ground, *J. D. H.*

Very irregular, so as to look sometimes like a *Psilopezia*.

3. **Peziza recurva** (Berk.); cupula subsessili undulata convexa recurva badia, sporidiis globosis granulatis. (Tab. CLXXXIII. Fig. 12.)

Hab. On the ground, *Archer*.

Cup nearly sessile, dark-bay, $\frac{1}{2}$–$\frac{3}{4}$ inch across, inclined to be turbinate, undulated and arched above, with the borders recurved. *Asci* linear, obtuse. *Sporidia* globose, granulated, $\frac{1}{1500}$ of an inch in diameter.—When moistened,

this *Peziza* is coriaceous, and looks like an *Endocarpon*.—PLATE CLXXXIII. Fig. 12, plant, *nat. size*; *a*, asci, and *b*, sporidia, *magnified*.

4. **Peziza fusispora** (Berk. in Hook. Lond. Journ. vol. v. p. 5).

HAB. On the ground, *Gunn*.

5. **Peziza Archeri** (Berk.); sessilis, cinnabarina, primum concava, demum expansa, undulata, margine libero.

HAB. On dead leaves of some succulent plant, *Archer*.

Bright-crimson. *Cup* $\frac{1}{4}$ inch across, sessile, at first depressed, then expanded, undulated and umbilicate, paler below, slightly tomentose. *Asci* cylindrical. *Sporidia* globose, $\frac{1}{3500}$ inch across, with a large nucleus.—The fruit is just like that of *P. endocarpoides*, B. The species is almost intermediate between the sections *Humaria* and *Mollisia*. The sporidia vary greatly in size in the same ascus.

6. **Peziza carbonigena** (Berk.); aurantiaca, gregaria, stipata, cupulis umbilicatis sessilibus flexuosis extus subtiliter granulosis.

HAB. On fragments of charcoal, *Archer*.

Crowded, about a line broad, not confluent, orange, umbilicate, subturbinate, slightly granulated externally. *Asci* linear, paraphyses clavate. *Sporidia* elliptic, $\frac{1}{1250}$ of an inch long.—This is not confluent like *P. omphalodes*. It has somewhat the habit of *P. glumarum*, Desm., but is far smaller.

7. **Peziza coccinea** (Jacq. Aust. t. 169).

HAB. On twigs, *Archer*.

8. **Peziza Eucalypti** (Berk.); pallide olivacea, cupula plana, margine pilis rigidis atro-purpureis ciliato, stipite cylindrico. (TAB. CLXXXIII. Fig. 13.)

HAB. On leaves of *Eucalyptus*, *Archer*.

Extremely minute, pale-olive. *Cup* turbinate, fringed with long, purple-brown hairs, supported by a cylindrical, distinct stem, which, like the cup, has a few scattered white flocci. *Asci* cylindrical. *Sporidia* oblong, subcymbiform, $\frac{1}{2500}$ of an inch long.—A very curious and distinct species, which in some respects may be compared with *P. misella*, Desm., though very different.—PLATE CLXXXIII. Fig. 13, single plant, *magnified*; *a*, ascus, and *b*, sporidia, *magnified*.

9. **Peziza stercorea** (Pers. Obs. ii. p. 89).

HAB. On dung, *Archer*.

10. **Peziza scutellata** (L. Suec. p. 458).

HAB. On dead wood, *Archer*.

11. **Peziza virginea** (Batsch.; Fr. Syst. Myc. vol. ii. p. 90).

HAB. On dead wood, *Archer*.

12. **Peziza lachnoderma** (Berk.); cupula subhemisphærica breviter stipitata extus nivea tomentosa intus miniata, sporidiis filiformibus curvatis.

HAB. On dead bark, *Archer*.

Cup 2 lines across, subhemispherical, supported by a very short stem, white and beautifully downy externally, within pale-scarlet. *Asci* long, clavate above. *Sporidia* linear, subfusiform, curved, $\frac{1}{1000}$ of an inch long.—This seems at first sight a large form of *P. calycina*, but the sporidia in that species are oblongo-elliptic, and only about half as long. I believe the sporidia in *P. bicolor*, to which the young plants bear much resemblance, are much shorter, but I have not seen them perfect.

13. **Peziza hyalina** (Pers. Syn. p. 655).

HAB. On dead wood, *Archer*.

14. **Peziza anomala** (Pers. Syn. p. 656).

Hab. On dead bark, *Archer*.

A form which approaches very near to *Solenia*. Where the cups are eaten off by insects, the appearance is exactly that of a *Polyporus*.

15. **Peziza epitephra** (Berk.); minuta, alba, hæmispherica vel subglobosa, insigniter cava, floccis crispis fuscis intertextis oriunda.

Hab. On the under side of fallen leaves, *Archer*.

White, minute, hemispherical or subglobose, hollow, scattered on a uniform brown stratum consisting of even, curled, brown threads.

16. **Peziza araneosa** (Berk.); cupulis primum subglobosis demum ex hemisphærico expansis sessilibus extus araneosis, floccis subtus super matricem repentibus oriundis, hymenio luteo-aurantiaco, sporidiis curvulis multinucleatis.

Hab. On dead wood, *Archer*.

Minute, at first globose, then hemispherical, with the border inflected, then expanded, white and byssoid externally, attached to the matrix by radiating byssoid flocci. *Hymenium* pale-orange. *Asci* clavate. *Sporidia* linear, curved, containing six or more nuclei, $\frac{1}{500}$ inch long.

17. **Peziza firma** (Pers. Syn. p. 658).

Hab. On dead wood, *Archer*.

18. **Peziza byssigena** (Berk.); ochracea, cupula concava, stipite elongato cylindrico subtiliter pruinoso e floccis intertextis radiantibus oriundo.

Hab. On a dead stick, *Archer*.

Cup $\frac{1}{2}$ a line broad, hyaline, ochraceous, regular, concave, subtremelloid, supported by a stout cylindrical stem about 1 line high, minutely pruinose, and springing from matted, radiating, pallid flocci. *Asci* clavate. *Sporidia* subelliptic or oblong, $\frac{1}{3000}$ inch long.—Allied to *P. lutescens*, Hedwig.

19. **Peziza ceratina** (Berk.); turbinata, stipitata, glabra, pallide fulvo-cornea, hymenio plano marginato.

Hab. On leaves of *Eucalyptus*, *Archer*.

Minute, not half a line high, of a clear, tawny horn-colour, turbinate, stipitate, smooth. *Hymenium* flat, with a narrow border. *Asci* rather large. *Sporidia* oblongo-clavate, pointed, $\frac{1}{1250}$ inch long.—This species is allied to *P. clavellata*, Desm., and *P. cyathoidea*, but more especially to *Helotium titubans*, Mont., a Chilian species, from all which it is quite distinct. The hymenium is perfectly flat when moistened.

20. **Peziza omnivirens** (Berk.); æruginosa, cupula breviter stipitata subturbinata, hymenio plano, sporidiis amplis.

Hab. On dead wood: Leith Creek, August, *Archer*.

Cup subturbinate, 2 lines across, dark verdigris-green. *Hymenium* plane. *Asci* lineari-clavate. *Sporidia* uniserial, oblong, obtuse at either end, subcymbiform, $\frac{1}{1250}$ inch long.—This bears the same relation to *P. versiformis* that *P. æruginea*, B., does to *P. æruginosa*. It is more regular, and the sporidia much larger. In *P. versiformis* the sporidia are $\frac{1}{2250}$ of an inch long, and much narrower in proportion.

21. **Peziza grata** (Berk.); cupula plana hyalina marginata breviter stipitata subaurantiaca, stipite pallidiori cylindrico quandoque compresso.

Hab. On dead, exposed wood, *Archer*.

Cup $\frac{1}{2}$ line across, concave, hyaline, of a dull-orange. *Stem* paler, compressed. *Sporidia* fusiform, $\frac{1}{2500}$ of an

inch long. *Endochrome* often retracted to either extremity.—Allied to *P. Colensoi*, Berk., but brighter in colour and with smaller spores. The cup is more concave in dried specimens. The stem is sometimes compressed from growing between the fibres of the wood.

22. **Peziza citrina** (Batsch. f. 218).

Hab. On dead wood, *Archer*.

Sporidia $\frac{1}{3000}$ inch long.

23. **Peziza nigripes** (Fr. Syst. Myc. ii. p. 132).

Hab. On dead wood, *Archer*.

24. **Peziza pateræformis** (Berk.); ochracea, cupula sessili sublobata concava subtus rugosiuscula subtiliter tomentosa, ascis linearibus, sporidiis oblongis utrinque attenuatis subcymbæformibus.

Hab. On wood overrun with Moss, *Archer*.

About 2 lines across, sessile, somewhat lobed, ochraceous, concave, beneath rather rugged, obscurely tomentose. *Asci* linear, elongated. *Sporidia* uniseriate, oblong, subcymbiform, attenuated at either extremity, sometimes subclavate, $\frac{1}{800}$ inch long.—Somewhat resembling *P. araneosa*, Bull, but allied to *P. citrina*.

25. **Peziza cinerea** (Batsch. f. 137).

Hab. On dead wood, *J. D. H., Archer*.

Gen. LXIX. PATELLARIA, *Fr.*

Receptaculum marginatum, patellæforme, semper apertum. *Hymenium* læve, persistens, sed ex apicibus ascorum aere adustis pulverulentum.

The plants belonging to this genus are morphologically Lichens, without crust. Owing to their persistent nature, the tips of the asci, as in *Lecidea*, etc., become carbonized. (Name from *patella*, a saucer.)

1. **Patellaria Tasmanica** (Berk.); sessilis, cupulis e concavo planis, hymenio e rufo nigro, sporidiis oblongis curvulis.

Hab. On dead wood, *Archer*.

Minute, at first subglobose, concave, then flat, with or without a border, externally black. *Disc* tinged with green and rufous, at length black. *Asci* clavate. *Sporidia* $\frac{1}{2000}$–$\frac{1}{2500}$ inch long, curved, narrow, oblong. *Endochrome* retracted to either extremity.—The disc, when moist, swells, and is of a pale-watery dingy-rufous.

Gen. LXX. ASCOBOLUS, *Pers.*

Omnia *Peziza* exceptis ascis dissilientibus.

A very curious genus, confined principally to the dung of various animals, though sometimes growing on wood. The sporidia are often beautiful objects under the microscope, from their amethyst tint. (Name from *ασκος, a vessel*, and *βαλλω, to cast*.)

1. **Ascobolus Archeri** (Berk.); cupula undulata sessili vinoso-fusca, sporidiis amethysteis eleganter granulatis.

Hab. On charcoal, *Archer*.

Cups 1½ lines across, orbicular, sessile, undulated, vinous-brown. *Asci* clavate. *Sporidia* at first elliptic, even, colourless, binucleate, $\frac{1}{2000}$ inch long, then more elongated, $\frac{1}{1250}$–$\frac{1}{1500}$ inch long, amethyst-coloured, elegantly granulated.—Except the two forms of spores were seen in the same individual cup with intermediate states, it might easily be supposed that there were two species.

Gen. LXXI. BULGARIA, *Fr.*

Receptaculum elasticum, tremelloideum, turbinatum. *Hymenium* læve, persistens.

Resembling *Exidia*, but distinguished at once by the presence of asci. The species are few in number, and two at least are widely diffused. (Name from *bulga*, a sac.)

1. **Bulgaria sarcoides** (Fr. Syst. Myc. ii. p. 168).

Hab. On dead branches, *Archer*.

Gen. LXXII. CYTTARIA, *Berk.*

Receptaculum commune, gelatinoso-cartilagineum; *cupulis* in globum connatis, demum apertis; *ascis* amplis.

This curious genus is parasitic on living trees of the different species of evergreen beech, and one forms a principal part of the food of the Fuegians. The Tasmanian species is doubtless equal in its nutritive qualities to the Fuegian. (Name from κυτταρος, *a honeycomb.*)

1. **Cyttaria Gunnii** (Berk. in Hook. Lond. Journ. Bot. vi. p. 576).

Hab. On living branches of *Fagus Cunninghamii, Gunn, Archer*.

Gen. LXXIII. STICTIS, *Pers.*

Receptaculum obsoletum. *Hymenium* læve, determinatum, matrici immersum, et ab ea marginatum primoque velatum.

Lichenose *Peziæ*, consisting almost entirely of hymenium. (Name from στικτος, *dotted.*)

1. **Stictis radiata** (Pers. Obs. ii. p. 73).

Hab. On dead wood, with *Marasmius epimyces*, and, like it, accompanying some *Thelephora, J. D. H.*

Gen. LXXIV. MYLITTA, *Fr.*

Peridium induratum, internam massam compactam siccam subcorneam heterogeneam venosam corticans.

It is probable that the original species of Fries is merely one of those singular tubers which grow on the roots of Leguminous plants. Recent specimens of the Australian plant, which is used as an article of food, exhibit something like asci, as represented in Corda's figure. There can be little doubt that the plant is autonomous. (Name from *Mylitta*, a heathen deity.)

1. **Mylitta australis** (Berk. in Ann. Nat. Hist. iii. p. 325; Corda, Ic. fasc. vi. t. 9. f. 93).

Hab. Subterraneous, *Gunn*.

Gen. LXXV. CORDYCEPS, *Fr.*

Stroma elevatum, carnosum, sæpius stipitatum, lætius coloratum. *Perithecia* peripherica, tenera. *Sporidia* longissima, endochromata plurima, plerumque dissilientia.

Most of the species of this curious genus grow on insects, and one or two on Ergot. The insect species are usually inhabitants of warm climates. The Tasmanian parasite is closely allied to the well-known insect plant of New Zealand, but very distinct. (Name from κορδυλη, *a club.*)

1. **Cordyceps Gunnii** (Berk.).—Sphæria Gunnii, *Berk. in Hook. Lond. Journ. Bot.* vi. *p.* 577.
Hab. On the pupa of some *Hepialus, Gunn.*

The New Zealand species grows on the larva (not the pupa) of an insect of the same genus. Ergot occurs on Grasses in Tasmania, but it is uncertain to what species of *Cordyceps* it owes its origin.

Gen. LXXVI. HYPOCREA, *Fr.*

Stroma horizontale, carnosum vel subgelatinosum, interdum obsoletum, ut plurimum lætius coloratum. *Perithecia* tenera. *Sporidia* plerumque indefinita.

Hypocrea is to *Cordyceps* what *Hypoxylon* is to *Xylaria*, containing those species whose stroma is horizontal, and not essentially vertical. Their bright colour at once distinguishes them, or, where that fails, the fleshy substance. (Name from ὑπο, *beneath*, and κρεας, *flesh.*)

1. **Hypocrea semiorbis** (Berk.).—Sphæria semiorbis, *Berk. in Hook. Lond. Journ. Bot.* ii. p. 146.
Hab. On dead wood, *Gunn.*

2. **Hypocrea rufa** (Fr. Summ. p. 383).
Hab. On dead wood, *Archer.*

3. **Hypocrea citrina** (Fr. Summ. p. 386).
Hab. On dead wood, *J. D. H., Archer.*

4. **Hypocrea tomentosa** (Fr. MSS.).
Hab. On the hymenium of *Polypori, Archer.*

Forming a white, delicate, tomentose stratum, without any very distinct stroma.

Gen. LXXVII. NECTRIA, *Fr.*

Perithecia libera vel mycelio l. stromati insidentia, tenera, læte colorata, verticalia. *Sporidia* ut plurimum octona, translucida.

Differing from the two foregoing genera in the free perithecia. (Name from νηκτρις, *a swimmer;* in allusion to the fluxile contents of the perithecia.)

1. **Nectria agaricicola** (Berk.); cinnabarina, peritheciis ovatis acutis lævibus, ascis cirrhiformibus longissimis, sporidiis filiformibus. (Tab. CLXXXIII. Fig. 14.)
Hab. On dead Agarics, *Archer.*

Gregarious on the stems, gills, etc., of Agarics. *Perithecia* ovate, acute, scarlet; walls vesiculo-fibrous. *Asci* extremely long. *Sporidia* very slender, filiform.—A splendid and highly curious species.—Plate CLXXXIII. Fig. 14; *a*, group of perithecia; *b*, asci; *c*, part of ascus and sporidia:—*magnified.*

2. **Nectaria tephrothele** (Berk.); peritheciis sparsis coccineis ovatis, ostiolo papillæformi obscuro, sporidiis subfusiformibus quadri-nucleatis.
Hab. Parasitic on some species of *Hypoxylon, Archer.*

Bright-scarlet, studding the surface of the brown *Hypoxylon*. *Perithecia* scarlet, ovate; ostiolum papillæform, cinereous. *Asci* thicker in the middle. *Sporidia* biseriate, $\frac{1}{1500}$ inch long, at length containing four endochromes —Resembling *N. episphæria*, but differing in several particulars.

3. **Nectria coccinea** (Fr. Summ. p. 388).
Hab. On fallen branches, *Archer.*

The sporidia vary slightly in the two forms referred to this species. In the one they are subcymbiform, as in the European form, and $\frac{1}{2000}$ inch in length; in the other oblong, with the endochrome retracted to either end, and $\frac{1}{2250}$ inch long. I can see no external difference.

4. **Nectria fusarioides** (Berk.); pallide coccinea, peritheciis ovatis papillatis pruinosis in stromate semi-immersis, sporidiis oblongis curvulis.

Hab. On dead bark, *Archer*.

Pale-scarlet. *Stroma* bursting out in linear patches. *Perithecia* half-immersed, ovate, papillate, pruinose. *Sporidia* $\frac{1}{2000}$–$\frac{1}{2500}$ inch long, oblong, slightly curved.

5. **Nectria Tasmanica** (Berk.); cæspitosa, rubra, stromate pallido, peritheciis ovatis, ostiolo papillæformi sæpe e disco orbiculari oriundo, sporidiis cymbæformibus bi-quadrinucleatis.

Hab. On dead bark, *Archer*.

Scattered on a subhemispherical pale stroma, blood-red, but not bright. *Perithecia* rather large, ovate, either ending gradually in a papillæform orifice, or slightly truncate, with a central ostiolum. *Asci* linear. *Sporidia* uniseriate, subcymbiform, with from two to four nuclei or endochromes, $\frac{1}{1500}$ inch long.—In external appearance resembling Montagne's *N. discophora*, but with very different sporidia.

Gen. LXXVIII. XYLARIA, *Fr.*

Stroma clavatum, subsuberosum, demum ut plurimum friabile, nigrum. *Stipes* sæpe distinctus. *Perithecia* peripherica. *Sporidia* octona.

A large genus, containing many tropical forms, and some which are universally distributed, known by their dark colour and clavate or branched stroma. (Name from ξυλον, *wood*.)

1. **Xylaria Hypoxylon** (Fr. Summ. p. 381).

Hab. On dead wood, *Archer*.

2. **Xylaria corniformis** (Fr. Summ. p. 381).

Hab. On dead wood, *Gunn, Archer, etc.*, apparently very common.

Gen. LXXIX. PORONIA, *Fr.*

Stroma sessile l. pedunculatum, nigrum, sursum orbiculare, concavum, albo-velatum. *Perithecia* verticalia.

Distinguished by the cup-shaped body, in which the vertical perithecia are immersed. (Name from πορος, *a pore*.)

1. **Poronia punctata** (Fr. Summ. p. 382).

Hab. On dung, *Archer*.

The form figured by Sowerby.

Gen. LXXX. HYPOXYLON, *Bull.*

Stroma liberum, friabile, horizontale, nigrum. *Perithecia* peripherica, nigra. *Asci* perfecti. *Sporidia* octona.

Distinguished from *Xylaria* by the horizontal stroma. In a few species the perithecia are vertical, and the stroma almost obsolete. (Name from ὑπο, and ξυλον, *wood*.)

1. **Hypoxylon concentricum** (Fr. Summ. p. 384).

Hab. On dead wood, *Gunn, Archer, etc.*

2. **Hypoxylon coccineum** (Bull. p. 174).—Sphæria fragiformis, *Pers. Syn. p.* 9.
Hab. On dead branches, *Gunn, Archer.*

3. **Hypoxylon argillaceum** (Fr. Summ. p. 384).
Hab. On dead wood, *Archer.*

4. **Hypoxylon annulatum** (Mont. Fl. Chil. vii. p. 445. t. 10. f. 3).
Hab. On dead bark, *Archer.*

5. **Hypoxylon multiforme** (Fr. Summ. p. 384).
Hab. On dead wood and bark, *Archer.*

All the specimens belong to the effused form called by Fries *β granulosum.*

6. **Hypoxylon Archeri** (Berk.); aterrimum, peritheciis subglobosis truncatis rugosiusculis umbilicatis, ostiolo papillæformi, sporidiis brevibus.

Hab. On dead wood, *Archer.*

Densely crowded and confluent, black, rather minute, opaque or shining. *Perithecia* nearly globular, minutely rugulose, truncate, furnished above with a little shallow umbilicus, in the centre of which is the papillæform ostiolum. *Sporidia* short, cymbiform, $\frac{1}{2500}$ inch long.—Allied to *H. marginatum.*

7. **Hypoxylon nummularium** (Bull. t. 468. f. 4).
Hab. On fallen branches, *Archer.*

Gen. LXXXI. DIATRYPE, *Fr.*

Stroma innatum, nigrum; *peritheciis* verticalibus.

Distinguished from *Hypoxylon* by its innate, not freestroma. (Name from δια, *through*, and τρυω, *to perforate.*)

1. **Diatrype lata** (Fries, Summ. p. 385).
Hab. On decorticated wood, *Archer.*

2. **Diatrype elevata** (Berk.).—Sphæria elevata, *Berk. in Hook. Lond. Journ. Bot.* iv. *p.* 298.
Hab. On decorticated wood, *Gunn.*

Gen. LXXXII. SPHÆRIA, *Hall.*

Stroma nullum vel spurium, mycelioideum. *Perithecia* varia, firma, verticalia, nigra vel fuliginea, sæpe corticata. *Ostiolum* breve. *Asci* perfecti. *Sporidia* ut plurimum octona.

A very large genus, consisting of those species which have no stroma, and whose perithecia have a short ostiolum. They are found in all parts of the world, but more especially in temperate regions. (Name from σφαιρα, *a sphere.*)

1. **Sphæria botryosa** (Fr. Syst. Myc. ii. p. 342).
Hab. On dead wood, *Archer.*

2. **Sphæria Saubinetii** (Mont. et Dur. Fl. Alg. p. 479).
Hab. On twigs, *Archer.*

3. **Sphæria (Cæspitosæ) Archeri** (Berk.); conferta, peritheciis rugosis tandem collabendo pateræformibus, sporidiis elongatis curvis quadrinucleatis.

HAB. On dead wood, *Archer*.

Densely crowded. *Perithecia* astomous, rugulose, at length by collapsing saucer-shaped. *Asci* clavate. *Sporidia* biseriate, elongated, curved, quadrinucleate, $\frac{1}{883}$ inch long.—This species at first sight looks very like *S. phæostroma*, but there are no hairs, and the sporidia are different.

4. **Sphæria byssiseda** (Tode, Meck. f. 69).

HAB. On dead wood, *Archer*.

It has rather longer spores ($\frac{1}{883}$–$\frac{1}{1000}$ inch) than British specimens, and thus approaches *S. Desmazierii*, Berk. et Br.

Gen. LXXXIII. CERATOSTOMA, *Fr.*

Stroma nullum l. myceliiforme. *Perithecia* membranacea, nuda, verticalia. *Ostiolum* insigniter elongatum, apice penicillatum.

This genus comprises those simple *Sphæriæ* which have extremely long ostiola ciliated at the tips, and of a soft membranaceous substance. The sporidia moreover are expelled from the ostiola, and often remain attached. (Name from κερας, *a horn*, and στομα, *a mouth*.)

1. **Ceratostoma caprinum** (Fr. Summ. p. 396).

HAB. On dead wood, *Archer*.

It has the same white, flagelliform orifice when perfect as *S. vervecina*, Desm., but it has no subiculum, and the sporidia do not exceed $\frac{1}{2000}$ inch in length, though they are frequently shorter.

Gen. LXXXIV. GLONIUM, *Mühl.*

Perithecium liberum, compositum e ramis radiatim excurrentibus teretiusculis prostratis, rima longitudinali dehiscens. *Subiculum* byssinum.

This curious genus is distinguished from *Hysterium* by its free, very compound perithecia. It is a very unexpected inhabitant of Tasmania, being hitherto confined to the United States and the north of Europe. (Name from κλωνιον, in allusion to the linear orifice of the perithecia.)

1. **Glonium stellatum** (Mühl. Cat. Am. p. 101).

HAB. On dead wood, *Archer*.

Gen. LXXXV. HYSTERIUM, *Fr.*

Perithecium simplex l. subramosum, ellipticum vel elongatum, innatum l. emergens, rima longitudinali dehiscens.

Approaching very near to the Opegraphoid Lichens, but distinguished by the total absence of crust. Essentially plants of temperate regions. (Name from ὑστερον, in allusion to the mode of dehiscence.)

1. **Hysterium tardum** (Berk.); peritheciis ellipticis obtusis tarde apertis, ascis brevibus, sporidiis uniseptatis.

HAB. On the under side of the leaves of *Cyathodes straminea, J. D. H.*

On the under side of the leaves. *Perithecia* flat, elliptic, very obtuse, opening principally in the centre. *Asci* short, thick. *Sporidia* subclavate, uniseptate, $\frac{1}{1000}$–$\frac{1}{1250}$ inch long, with a hyaline border. This species is almost intermediate between *Hysterium* and *Phacidium*. A few specimens only show any trace of an aperture.

Gen. LXXXVI. MUCOR, *Mich.*

Flocci tubulosi, fertiles erecti, terminati sporangio membranaceo dehiscente (raro diffluente) includente *sporidia* discreta.

The species of this genus are developed upon all sorts of decaying substances. The vesicular heads, which do not collapse, as in *Ascophora*, distinguish the genus. Little is known of exotic forms. (Name from the Latin *mucor;* a generic name for Mould.)

1. **Mucor cervinoleucus** (Berk.); flocci simplices, deorsum candidi, sursum ochracei, sporis subcymbæformibus.

Hab. On the dung of some small animal, *Archer*.

Remarkable for its ochroleucous aspect. The *spores* are elliptic, with one side nearly straight, and are about $\frac{1}{2500}$ inch long. *Sporangia* tawny, globose.

Gen. LXXXVII. ENDOGONE, *Lk.*

Flocci fertiles, sporangiis terminati, in massam subglobosam compacti. *Sporidia* ignota.

The fructification of these curious truffle-like Moulds is not satisfactorily known. The vesicles are just like those of *Mucor*, but have not been observed to contain sporidia. (Name from ενδον, *within*, and γιγνομαι, *to be produced*.)

1. **Endogone australis** (Berk.): hemisphærica, alba, sporangiis magnis centralibus aggregatis.

Hab. On the ground, *Archer*.

Hemispherical, about 2 lines across, white. *Sporangia* confined to the centre, $\frac{1}{250}$ of an inch or more across, greenish, collected in little groups.—The pale colour, more branched threads, and central sporangia, distinguish this interesting species, of which there is only a single specimen in the collection.—Plate CLXXXIII. Fig. 15, *a*, plant, *nat. size; b*, section of ditto; *c*, external threads; *d*, sporangia:—*magnified*.

Nat. Ord. VIII. ALGÆ.

By W. H. Harvey, M.D., F.R.S.

Series I. MELANOSPERMEÆ.

Tribe I. *FUCACEÆ.*

Gen. I. SARGASSUM, *Ag.*

(J. Ag. Sp. Alg. i. p. 268. Hook. Fl. N. Zeal. ii. p. 211.)

1. **Sargassum Raoulii** (Hook. fil. et Harv. in Lond. Journ. Bot. iv. p. 523; J. Ag. Sp. Alg. i. p. 288; Kütz. Sp. Alg. p. 616; Hook. Fl. N. Zeal. ii. p. 212).—S. capillaceum, *H. f. et H. Lond. Journ.* vi. *p.* 414.

Hab. Port Arthur, *Lyall, J. D. H., W. H. H.* Georgetown, *Gunn, W. H. H.* Southport, *C. Stuart.*

Distrib. New Zealand.

2. **Sargassum biforme** (Sond. in Bot. Zeit. 1845, p. 51; J. Ag. Sp. Alg. i. p. 301).

Hab. Georgetown, *R. Gunn.*

Distrib. Western and southern shores of Australia.

3. **Sargassum paradoxum** (R. Br. in Turn. Hist. Fuc. t. 156; J. Ag. Sp. Alg. i. p. 302).

Hab. Georgetown, *R. Gunn.*

Distrib. Southern shores of Australia.

Gen. II. SEIROCOCCUS, *Grev.*

(Grev. Alg. Brit. Syn. p. 34; Endl. 3rd Suppl. p. 33; J. Ag. Sp. Alg. i. p. 260.)

1. **Seirococcus axillaris** (Grev.; J. Ag. l. c. p. 260).—Fucus axillaris, *Turn. Hist. t.* 146.

Hab. Georgetown, *Gunn, W. H. H., etc.*

Distrib. South coast of Australia: not found west of Cape Northumberland?

Gen. III. SCYTOTHALIA, *Grev.*

(Grev. Syn. p. 34; Endl. 3rd Suppl. p. 33; J. Ag. Sp. Alg. i. p. 257.)

1. **Scytothalia dorycarpa** (Grev.; J. Ag. Sp. Alg. i. p. 258).—Fucus dorycarpus, *Turn. Hist. t.* 143.

Hab. "Van Diemen's Land," *R. Brown, fide J. Ag.*

We have not seen any Tasmanian specimens, and suspect a mistake in the habitat. This plant is very abundant in Western Australia, but is not found, to our knowledge, to the east of Cape Northumberland.

Gen. IV. PHYLLOSPORA, *Ag.*

(Ag. Revis. Macrocyst. p. 311; Endl. 3rd Suppl. p. 32; J. Ag. Sp. Alg. i. p. 252.)

1. **Phyllospora comosa** (Ag. l. c. t. 28. f. 11; J. Ag. Sp. Alg. i. p. 253).—Fucus comosus, *Turn. Hist. t.* 142; *Labill. Pl. Nov. Holl. t.* 258.

Hab. Common on the seacoast.

Distrib. South coasts of New Holland. New Zealand.

Gen. V. SCABERIA, *Grev.*

(Grev. Syn. p. 36; J. Ag. Sp. Alg. i. p. 251.—*Castraltia*, Ach. Rich. Fl. N. Zeal. xi. p. 143; Dne. Arch. Mus. xi. p. 175. t. 5. f. 23, 24; Endl. 3rd Suppl. p. 30.)

1. **Scaberia Agardhii** (Grev.; J. Ag. Sp. Alg. l. c. p. 252).—Castraltia salicornoides, *A. Rich. N. Zeal.* xi. *p.* 143.

Hab. Georgetown, etc., *R. Gunn.*

Distrib. Western and southern shores of Australia. New Zealand.

By an oversight, this plant is omitted in Hook. Fl. N. Zeal.

Gen. VI. CYSTOPHORA, *J. Ag.*

(J. Ag. Symb. p. 3; Sp. Alg. i. p. 238; Hook. Fl. N. Zeal. ii. p. 214.—*Blossevillea*, Dne. in Arch. Mus. xi. p. 147; Hook. fil. et Harv. in Lond. Journ. vi. p. 414.)

1. **Cystophora monilifera** (J. Ag. Sp. Alg. i. p. 241; Fl. N. Zeal. ii. p. 214).—Blossevillea retroflexa, *Dne.; Harv. in Lond. Journ.* vi. *p.* 414. Fucus retroflexus, *Turn. Hist. t.* 155 (*not of Labill.*).

Hab. Georgetown, etc., *R. Gunn.*

Distrib. Western and southern coasts of New Holland. New Zealand.

2. **Cystophora retroflexa** (Labill. Nov. Holl. p. 113. t. 260; J. Ag. Sp. Alg. i. p. 242).—